SEQUENCE LISTING

(1) GENERAL INFORMATION:
      (i)   APPLICANT: Blattner, Frederick R.
                                Burland, Valerie
                                Rose, Debra J.
                                Mayhew, George F.
                                Perna, Nicole
                                Perry, Robert D.
                                Straley, Susan C.
                                Fetherston, Jacqueline D.
                                Lindler, Luther E.
                                Plano, Gregory V.

      (ii) TITLE OF INVENTION: Plasmid DNA from Yersinia Pestis

      (iii) NUMBER OF SEQUENCES: 3

      (iv) CORRESPONDENCE ADDRESS:
                  (A) ADDRESSEE: Quarles & Brady
                  (B) STREET: 1 South Pinckney Street
                  (C) CITY: Madison
                  (D) STATE: WI
                  (E) COUNTRY: US
                  (F) ZIP: 53701-2113

      (v)   COMPUTER READABLE FORM:
                  (A) MEDIUM TYPE: Floppy disk
                  (B) COMPUTER: IBM PC compatible
                  (C) OPERATING SYSTEM: PC-DOS/MS-DOS
                  (D) SOFTWARE: Word Perfect 8.0

      (vi) CURRENT APPLICATION DATA:
                  (A) APPLICATION NUMBER: 09/409,800
                  (B) FILING DATE: 09/30/99
                  (C) CLASSIFICATION:

      (viii) ATTORNEY/AGENT INFORMATION:
                  (A) NAME: Seay, Nicholas J.
                  (B) REGISTRATION NUMBER: 27386
                  (C) REFERENCE/DOCKET NUMBER: 960296.95939

      (ix) TELECOMMUNICATION INFORMATION:
                  (A) TELEPHONE: (608) 251-5000
                  (B) TELEFAX: (608) 251-9166

(2) INFORMATION FOR SEQ ID NO: 1

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 100990
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: circular

    (ii) MOLECULE TYPE: DNA (plasmid)

    (xi) SEQUENCE DESCRIPTION:

```
aaacagcccg gcgtgctgga gcgactggaa cgtgaggacg gtgtcattat ccaccagcgt 60

cgcgagtggc gcatgtacga tccggaaaca ggtaagctca cgacgaaggc cggaacgctc 120

tggggtctgc tgaagaaaat ccactgataa caccaaccac tgcggtgagt agccagctca 180

ccgcgcgcgt atctgggtca taaccactgt agtgagtaaa acggctgccg tggcatccgg 240

tatccactgt agtgagtaaa gtggtgatta tcgacttcac tatccactgt agagagtaaa 300

caggcgttca ttcacagcaa acaaccacta tggagagtga tggaatgcga cctccagcgg 360

gtatccacta tggagagtaa accttcactg ttttcagcgg atgtctactc tccacagtgg 420

atagtaaatc cagccaaccg attctgctct ccatagtgga tagccaatag cgaagggagc 480

aacgataacc actatagaga gtggatttaa caagtcaccc agtgaccact aacctcgcag 540

cccttgtttc atctaggttt gtaaccacta acattcattt cgttatttga gcgctactgc 600

ctacagtggt tactattcgg ttgttgttac tcactacagt ggatagcgga cttcagataa 660

acaaaaggcc cactacagcg gaatagtgag cctttctact ctctacagtg attgggctat 720

ttgcgagcct ttgccttgcg cagctcttcg agaatcgcca gttcttcctt gctcaacatg 780

accatctcac cgtctttttc ttcaggaaca acatcgatga tgtcctcctg accatcgcca 840

ggcaagttat cttcctgctc ttctggttct ccggcgcag ctttagttgg tggcaatgcc 900

gggcgtaact tcggccgcct atagtggatg atgaagtaga ccgagctgcc gcgcttcact 960

tcggtgtaat cgagatagcc gatctcccgc agctgctcca tcgccttcct gactgtcgcg 1020

ttctgggtaa tggtgcggct ggttaagtta agtctggcgc gtaagcgagc caacgagatt 1080

ggtgccgggt caggtggcaa actttcgatg aatgtgtaga gtgcctgggc ggattctttt 1140

ctggagagtt cgttgattgc ccggagttgc agaagaacct ttttgtcgaa ctggtagagt 1200
```

```
tcgaaaatct taggatcagc ctgcagcgag accgtgtcgt tcttagtgct gtactttgct 1260

gtctgcacaa ggtgagttac gtaatactca tcagagcctt tactgcggaa tgagatagtg 1320

tttgtggcga tacgagttag agaactgtcc aggcgcttac gtaacttcgc ggacgatctg 1380

gccgttggta tgccacagag cctgacgaac tcgacgaacg gtaacgtgac agtgtcgcca 1440

acaaccttgt gcttggcgaa cgcgtggatg atgcctaccc acgttttaaa gtcgttatcc 1500

atatccagac gaacgccgga gatccttatg tcctcatacc cttcggcttt ggccagagac 1560

agctgtttga gttcagcaga ggcgtccata gagaccattt gccccttcct gccctggac 1620

gtcgatttca gcgtcggaac gaagagacca agacgcatca gagcaacggg ctgaacagtg 1680

ttgttggtgt taggaactaa cgtaacaact tcgcctgtct ttttgtctgt ttctgagaat 1740

gcttcaacga tcgctatgtt tttattgccg ttttcgctca ttccaagtgt ctctttttat 1800

tcgacggctt tggtggcctt tgctgattac agtggatatt agcactcatc acagcggtta 1860

tcctaccgcc tatagtggtt tttctactct ctacagtggt tggtttactc ttcatagtgg 1920

ctgatcttct ctctatagtg gatatcgatc acctctgagg ccagatggca caacggtttg 1980

cgggatgcgg ggatcttttt gggtctttgt gggtctcttt ggttctattt gggatctgaa 2040

ttactggatc gggcctgtgt ataaaaatca ggtaattgca aaaccagcca tcactccctt 2100

tctggggata atgtgtggtg gaaacaaaca cgcctgaacg caagattaac gatatatcca 2160

tgaatatcag ctatctaaca cagaaaaaca ggcaaagagt tatccagtca agacaatgcc 2220

tcctactcac tacagtggat accgaccact ctccagagag gttgttttgc tcttcatagc 2280

ggttattatg ctctctacag aggttacttt gctccccata gtggatagta accccctctc 2340

aggccagtaa ccgcaacggc tggagacgat cggggatctc ttttgatctt ctgtaggatc 2400

tctctgggga tctaattatt ggatcggtcc tgtgaataat gggtataagt aaaacaggca 2460

tttgcaaaca tcggtgcgcc ttgtcagtta tcgttgcccc ggacaaaact atttgaataa 2520

gaattatgga tctcaaacgc acgcgctggg ttcgccgtct tgaagatggc tcctacacca 2580

ttgaatcgaa cactatcctg aacaaacaga aattgctctg cgacctatgc ggcatagcgt 2640

cgaagtgccc gattaacgaa actcggctca aactctacga cgccggtgcg cacttccact 2700

tgaacagctg catacgttac gtgccactgc tggcatttcg taaaccgatc atcggattgg 2760
```

```
acgcaccta cttcaacacg ctccgctctg gtgtaacatg gcgagaccgg gtcgaacctg 2820

gcaagctcgt ttgtctggtt gaggctgata ctggaaatat catccggttc gggagagtcg 2880

ataaagtcta ctccggcccc gtggatgaga tgctgcggaa acacagccgg tttaaccatc 2940

tctgcatggg cggagagaaa attgataagg ttggcgaagt gatccgcaaa tcctacggac 3000

acttcctgaa cgacgacagc cttctcacgg ccatctacat tcgccatgtc gatcgggagt 3060

tcgatacgga gtatcacagt gctgaagagt tgaatcttgt cgaccctcgc ccaaaagctg 3120

gggtaatcga catcagcgta gcgcgtcaga agccctctga gacgttttaa acgtaaactc 3180

atggttttac cggggcataa aatatggtgt cttagaaaga cactgagagc tttagggatt 3240

aatacatgag tgaattttat tcaagggcgg cggctgtggc agaccaagct ggcaatgaag 3300

acgaacgagc agggccggtt tttaatttgc agcccccgtt aatcatagtg acagtaaaat 3360

atctgtcaca aaaacagtac gagagagatt aggatctcag tagtggtcag aagaaaaata 3420

tgtactaggt taaaacaggt acatgtttac tggtacgcat cacataaata atagtaatgc 3480

actccaggta aataggcgat tgtccagtag acaaccgcct gtaatgagac tatttgcctg 3540

tttcttgctt gtttaagccc actgctttct gataatagct ggtatcataa tatttatgcg 3600

tatctgtcag atttttctct ggcttagcaa gcctgcttcg caacagtaga acattttta 3660

cccttctgc attaatagca gcatcccgtt gcagcccatt gttaagtaat tcctgtaatg 3720

caggtcctgc cagctccgcc gtcattcctg gtgcctttt gaccagaatt cttctgctt 3780

cttttggtt acggggtca taaatccagt tcagtccgtc gatatagcta cggatgtaac 3840

ttaccagaat atcaccattc tgagccgccc aggagcgggt tgtaatgcca gttgtgccct 3900

gatagtcgcc aagttcactt ccggaggcaa ggatcttaaa cccattttct ttcgcctgca 3960

gatttaatgg agtacggaga agtgttgcat ctgtcttacc ggcgagaagt gcattaaagc 4020

gatcattcgt actgccaaca cttgtatagt ggacatcatt ttgtgtcagc ccgtttttct 4080

caagataatt ccggataaca aaggcatagc cagtggtcaa agcgtcgact gaaacttgtt 4140

ttcctttaag atcactgatg ttcttaattt gagggttagc aactaatgaa agaagcccgt 4200

tatccactcc ataaaacgcg aacatatccg gattcactac cggctctttc acctggccct 4260

cttgatacgc gatgacgtta tcaatacctg ctactgcaat attatacttg ccattcagca 4320
```

```
ggtttctgac cagttgaccg gaattgggtg tgtaatccat tttcacatta agaccatttt 4380

ttctgaaaaa gccttttttcc tgggcaaccc aaacaggcag gttccacccc ccctgaaaag 4440

taatgacgtt aatatccctg atagatgagc ttgattcccg ggtatccgcc gcgtgtaggg 4500

cgccgggcag gataaatgca agtgaaacgg ttaaagccaa gcatctgaac ataatattta 4560

cctcttactg tgaacagttc gtaagagttt aaaaaaatgg gtaatgataa taaagtagaa 4620

agcattctgg ctatctggcg ataactggc tcatttttac cagcaaatgg ataagcataa 4680

gcgccggtaa ggcagcctcg aatgcgcaga tctcggtcca ttgccagtga cgaaagccca 4740

gactgctgag agcggattct agagacatgc ctataaattc tgacgtgacg aagagttgct 4800

cgttacattt agaaatcatt accgccatga aataggtat tcacttactt atgtattttg 4860

tcataatcat gtgcctgtag attttcttct gtgccgtgtt gtctgggttg ttcgcctctc 4920

aagcacgctt aatatctgta tcaaaataac cacaaaggaa aagacacatg acattgccat 4980

acggggtgat atcagatccc cattatcatc gttgggatgc ttttgcgaca acaaacgctg 5040

acgggctgaa ctctcgactg gagatccaac tggatgccac gaaagaagct gccaaagcca 5100

tgaaagctgc gggctgcaag cacatgctgg tggctggtga actttccat gttcgtggtg 5160

ctatatcgcc ttccgtcctg catttcgtga ccgaaactta cgagtggatc atcaaagagt 5220

tgggcctcga agtggttatg ctggccggca accacgacct cgaaaccaac gattccgtat 5280

acagcgccaa tgcagcggcc tctctgcgct caatcggtgt ggaaatcgtc tgcggcaaac 5340

gtcctcactc catcaaaatt ggcgacgtta ccgtccatct gattagctgg cgcaataacc 5400

acgcagagct tatcagcgac ctcaaaacac tgcgttccgg gctggatggc gacaatcacg 5460

atgtcgttgt gcatacctcg atcaacaaag cgatccctac catgcctgat gtcggcatcg 5520

acgcacagga actgaaagat atcggcttcc gtttgttgtt gtccggacac taccacaacc 5580

acaaagaagt gctgcctggg gtggttagca tcggggcgct gacgcaccag aattggggtg 5640

atgttggctc gctggctggc ttcatgatcg tcaaccctga cggcacattc acccaccacg 5700

aaacctctgc acccaagttc gtgaaccttg aggacgatgt ggaagacgat caaattcgcg 5760

gtaactacgt gcgctttcgt gccgttgttg agaacgatga agaaggcatc aaactccaga 5820

acgtcctgaa aacaatgggc gcgaagggtg tcgtctgcaa cttcatccgc aaggcatcga 5880
```

```
tgatggaagg ctctgccagt actgcggaga ccagcaaaat agacagcctg ggcgagtccg 5940

tcgcggcgta ctgcaagatc gttcacgaca ctgatggcgg cttcgacctg agcaagctgg 6000

acatgctgtg tcaggaaatc ctgaccgaag cggagagtgc ggaggcagtg tgagtacgaa 6060

ccattctggg agctttcggg acttcgtctc cacaatgaga agacttgaac gaggccagac 6120
```
```
5      ggtgatgttc cacaagccct acccacctaa tggaaaccct gtggcgtttt acctgggaag 6180

attgagcaaa aagggcgtac taaaacgcaa atccttcccg gctcacacgg agtttcaact 6240

acgaaaaggc cagcatttga atcaaaaagt ttgaggcatt gtatgaaatt tctaaagctc 6300

caggttgaga acttcatggc gttagccagc gccgaagttg agttagacca acgcggtctg 6360

gtgctcattc agggtgttaa cagtggcgac tcttccgctg ccagcaatgg cgcgggcaaa 6420
```
```
10     tcgactttga tgaacagcct gatgtggtgt ctgtatggcg aaactgcgca tggcgtcaaa 6480

ggtgacgacg tgctgtctac aggtcacgaa aaaaactgtc gtgtgatggt aactgttgag 6540

gatgaaggaa agcgttacgc catcattcgc caccgcaaac acaaagagtt caagaaccgg 6600

ctgatcgtcc gtggcgaaga cggtgacatg accaaaggca agacacact gacgcaggag 6660

ttcgttgaac gcctgattgg tgcatcgaaa gaggtgttca tggcgtccat ctacgccagt 6720
```
```
15     caggaagcaa tgccagatct gccgggtatg tccgacaaga acctcaaaac catcgttgaa 6780

gaagccgctg gcgtcgaccg gttaacgcga gcctatgcca ttgctcgcga gcgtgctaat 6840

gcagctgccg cacgcatgga tgttaccaaa tccaaaatgg acgcctgtct cacgcttatc 6900

gagaccgcgc agtcagagat tgaggcggcc aaagcgtcct ctgatagttg ggaacgcgat 6960

cgcggcgaac gtctggacaa ggcccgcgta gatttggctg cgcggaggt aacgctgtct 7020
```
```
20     gaagtcgtga tggaaattcg ctcgctgccg gaacagatcc gggatacgga aaacgcgatt 7080

gctggcgaac gctgcaagct ggcctccaaa gaagagcatg acgccaaact gctgaaggtg 7140

cgcggtgcga ttacggagat ccgctcaagc atccgcactt cagaagcggc acagaacgag 7200

tcgatgaacc gtgctcgctc gtttaaaacc aaagcagaag aggtcagcac aaaggtcgga 7260

gcaccttgtg ttacttgcgg aaagccctac tgcgaagaag atttgtccac cgtgaaggag 7320
```
```
25     agtttcattg aacaagcgcg taatgagatc ggccaggcgc aagcatcagc ttcggcagtg 7380

gctcaacaca aagctcgtct tgagaaagcg ctcggcatcg aatctgcact ggtcgcagcc 7440
```

```
acacccgacg tttcagaaat catcgccaaa atcgaacgcc tgaccaatga gctaagtgcg 7500

ctgcgtcatc gcgaacgtga agttgtggcc gtcgaagcga tggtggcgcg ggcgcgtacc 7560

gatgtgaatc gcattatggc agaggtaaac ccatttctgg ccgttattaa gcgtcatgag 7620

gacaacctgg ctgccaataa atctaatcat gcagtactta aaaatgagtt aaagagtatt 7680

caagaacagg ctctgttgct ggagaaggct cgccaggttt actcccctgc aggtgttcgt 7740

tcacacatcc tgacctccgt tacgcctttc ctgaacatca ggactgcgga gtatctcaac 7800

acgctatcgg acggcaatat cgttgccgaa tggtcgacaa tggagacaac gaagaaaggc 7860

gagtatcgcg acaaattcaa tataagcgtg accaaaacag gttccagcaa atccttccag 7920

acgttgtctg gtggtgagaa gcgtaaggta cgtattgcgt gctctctagc cttgcaggat 7980

ctggttgcca gtcgcgccag taagaatatc gagctgttta tcggcgatga aattgacgac 8040

gcgctcgaca ctgccggtct ggagcgtctc atggggattc tggaagccaa agcgcgtgaa 8100

cgcggcacag tgatgatcat ctcccacaaa gagatgaaat cgtggttccg ggaaaccatc 8160

actgtcgaag tcaaagaggg tcgcagctat gtcgtttaac ttgagccgca cgcagttttt 8220

gcagatgttt gccgtgatgc aatctataaa gctgataaac caccatacgg caaaagcagc 8280

tgcgcctgca cttttgtgga aaaacgaaaa catcaatgac gaccagttct cggtattaac 8340

cagtctgttg tcatcgactc cgttgatgcc gagcttggct atgttgccgt caggaagcac 8400

tgcgccgatc cttgttaacc catttacgga aggtggatat ctcccacatt ctgggccggg 8460

gttcgttgcg atacctgaaa ccggaacgct gaatatccaa gaaaatgcgc tcttcaatgc 8520

aatggagacg cacatcagca ccgcattcac caatctgatt cgacacgcta acgcacgcgc 8580

tgatcacgtt gcaatgcctg gtgctgcttt cgccagcgtc tctgttgact atgatcggca 8640

cgcgccaatc tcaaagcggg cgaaactctg cttttacgag gagggatgtg aagtagcggt 8700

tattaaagtt cttctccccc atgtattcag cgcgaatgaa aaggttgcac accatctgat 8760

cgacatcatg cgacatttca tcggccagag catgattgat gcagacattg ctgcaggtgt 8820

tctaaccaac gatagcattc atgttgttag cgacattccg aagccgccaa ctcgcgagcc 8880

ggagaagaca cttgaacaga aactaatgga atgcccaacc tgggctacgt ggtaaggaga 8940

ccaaaaaatg agtaaaacca ttcgtgtggt tggcgtcgac ccttcaatga gcaactttgg 9000
```

```
cctggcgatt ggcacgctgg atctggaaac ggataagctg gacattcatg gcctgacatt 9060

ggtggaaacc aaagctggtg gcaacaagaa gacggttcgc gtaaacagcg acgatctacg 9120

ccgcgctaac gaaatctggc gcaccgccaa gcccataatc gagcaggctc atatggtgtt 9180

ttgcgagttg ccggttggta gccagtccag tcgcgcacaa acctcatacg gcatctgcat 9240
```

5
```
tggcgtactg gcgtgcgtgg ataagccact gatacaggtc acgccaaacg agattaagca 9300

ctatgtcggg aataagctga ccacgtcgaa ggaagagatc attcagtggg ctacgcagaa 9360

gcagccaaac gccccgtggt tgcgccgcaa gcaatctggt aaggaagtgc tggtgaataa 9420

aaacgagcac cttgcggacg ctgtcgcgtc gatttacacc ggaatgcaaa ctgatcaatt 9480

ccgtcaggtt cgcgatgtgc ttgcagggat tttataagtc gataattgat aggtaggtgc 9540
```

10
```
ttatctatta acataaggcc actatattta gtggcctttt ttgtgcccag aaaaccccca 9600

gctaggctgg gggttcagta aagctttcag ctttgggtca gttataaaaa cccctttga 9660

tttgttaaaa cagtttgcgg tctggcaact gcaaatgttc aacaagaaat caaaaggggg 9720

tcccaatgag ggatgaaaag agcttagcgc acacccgatg gaactgtaaa tatcatatag 9780

tttttgcgcc gaagtaccga aggcaggtgt tctacaggga aaaacgcaga gcgattggca 9840
```

15
```
gtattttaag aaaactgtgc gaatggaaaa acgtgaatat cctggaagca gaatactgtg 9900

tggatcacat ccatatgctt ctggagatcc cgcccaagat gagtgtctcg ggatttatgg 9960

ggtacctgaa gggaaagagc agtctgatgc tttatgagca gtttggcgat ttgaagttca 10020

aataccgtaa cagggagttt tggtgtcgag ggtattacgt tgatacggta gggaaaaaca 10080

cggccaggat acaagaatac ataaagcacc aattggaaga ggataaaatg ggtgagcaac 10140
```

20
```
tctcgatccc gtatcccggt agcccgttta cgggccgtaa gtaatccata gatgcaaatg 10200

tcagatcgcg atgcgcctgt tagggcgcgg ctggtaacag agccttatag gcgcatatga 10260

aaaacctccg gctatgccgg aggatattta ttatacccga taacaaaatg ttttttgcct 10320

tatccacatt gcgataatta caccaacaag aaaacaagat gtttacgcat ggaggatatg 10380

cacatgaccg atttcactat ctcccctaaa gctgaaaacg tatggctgga atcctggctc 10440
```

25
```
gacctgtcat cggaagagaa gcgagaaatg gatcatattg aacaggacga acagtgtgat 10500

gcccgcttct tccactttga gggcagcgtt tatgacattg ccgacttcat gcgcgatgac 10560
```

```
cgattcccgg gctggcacgc aggctaccca ttaaatgcct tcgccatgct gatgatccgc 10620

gtggatggct caggcgatac catcgacgtc ggtttgctcc actaagagaa cgaggccacc 10680

catgctggtg gccttaaatg gccatcctgt ttcccgcagg ctaaaaacac ccacctctta 10740

ccgccaggct accgaacaac cctccgactc cctgcaggcc accatctgcc ggaacagaac 10800

gcttggacgc cttatgcgcg tagcgataat taaaccaaca agaaaacaaa ttgtttaaag 10860

gattatcacc atgaatttta tcgctactgt taacacccct tcgcatggcc atatttctgt 10920

gacgttctct gataacgata aaagcgtgct gggcgcctgg cgtgacaatg taaccatcga 10980

gctgtccggt aaagagaaac agcagatcac caatgacatt atctgcaacc gtcgccataa 11040

gcgcgtattt gaaaaagcgt atgtctccac ctcgggattt ggtgtattca tcttcccggt 11100

acgcagcggt cgcttctgcc ggtcaaaact catcgagttc gccacgcaga tcgcgctatg 11160

ggttaaaaca gaatccggat tcgactttac cgaacaggaa gcagtggggg aggggatgcg 11220

catcgccaac aacgccatca agtgcaaaaa cgtcatctat gaagcaggaa tcgactcgtg 11280

gagtatctcg tgcggggact acgtgaaaga ggtgtacgga aagaaccgca ttcacatcct 11340

ggctggcaag taagagggga ggggctggaa acgccccttt cttttcgtcc accagttgcc 11400

gcagggaaac ttcagaaacg gccagagagc tgtccgggga accgaaggga aacggccagg 11460

gaattttcgg gaaacggcgg ggtttgcctt tatgtagaaa acagagcggg agaagccaaa 11520

aatcgctcca gaaattgcgt agcggcgctg gggtagttgc cggtggagtt tcagctcctg 11580

agccacccag atagctttcg ccatgtgatt atgtgaatcc gtgggaaagc cactgcaagc 11640

gcgtacacgt cgcgtcaacg tgccaatgat acgcgagcgc ccacggatca tgccaatatt 11700

gccgacacgt cccgaaggat agcgcggatc acgtcgccag atatcgccag acgatcacgc 11760

ccacgacacg acaaaataag ccacgcgcta aaacgcgcta taacgtgttt tttattgtgg 11820

gtaatgagta tgtaccacca cacataaaaa cgcgttaaat tggcgcgttt atggcgctta 11880

tttttggtct gttttggctg acttcagaca ataaaaaacg cgccaacaat ggcgcgttat 11940

ggtgtgcgga tcttgaaacg aaaaaagcgc ccatagtggg cgctattgtt tttattttc 12000

taagtgaatt ttaaagccag cgtttaaaaa ttcttgaatc attaaaagaa catcggattc 12060

tttgattcct gcgcgcttcc tatgctccgc gctattcaga tctatttaa acgtggtttc 12120
```

```
gtcgactact tcagagctga gagcgtatcc agctaaacca gcgatatcat aaacaagagt 12180

atgattatgg atgttaacgc cagcgataaa aataaccata aaaacgctcc ttaaaaaata 12240

aaattgaata cagacttaag atcttttgaa taagcgccca tagtgggcgc tatattcaat 12300

taattacgct ttgaaagcgt cagccagata gttataaaaa tcatttttga taaagcgata 12360

5      ttgctgcgat ccgttttttag cagcgcccat tcctttgatc ttctcgacca gtccgagacg 12420

ttcacaaaga ttgattagtt ggttggcttg agtgtagcca gcgtccaatt taatttcgtt 12480

ggctttttttc gcttcattca tcaaatcgaa aacagcgcca ttagtgaatg tttccaattc 12540

atcattaatc atttcgatta atgcgaatac gcgagatccg gacatatcag cgacggaata 12600

aacgcattta ccagacttga tagatttaac cagataaacc agttttttcga gtgaatagct 12660

10     attggtcata gcttcacgga aaaacgcttc aggtgcttgt ttgcttgctt taatcgcgta 12720

gtaaaagaca ccagctaatt tctcatcatt aacagcgttt aaaacgttgt tggtaaagta 12780

tgcaagtttg gtagtcgctg caagcatgtt agctttatct gctttggtgt gcgtaccatt 12840

ctgataatga ttgttataag tctgagtcgc attgttggct gcaacttgca attcattagc 12900

gataactaca gcagcgtcga tgatagattt tttagagata gcaacgttag acatgatatt 12960

15     aatccttatg taatattgat aacttaattt gttatttatt tatcgttagc gtgttcgctt 13020

tcgatgtgac taattatcga tatacaaaaa ttaaaatcaa gagttttttg cgcgggaatg 13080

aaaaaaaatt ttcttcaata aaaatcaaag tcttagaaat aaaacgcgtt ttctcgaagg 13140

tgttgcctaa ataaattccc tattcggtca atcaccctta tatatttaaa acggaaccgg 13200

gattagggga ggtaaatata acgggaagtg acacataaaa taataaccgg acttagccgg 13260

20     ttattaccct tatagatttta aaacggtaaa atccgttcga cccaatcgaa catgacgact 13320

gtcttccgac cgtcccccat gttgagcgtg gcctggcaag cgtctacgcc tgaagacccc 13380

ccctcaattt cacggccatc cgccatgtag acccttatag acttctgcat ctcatgagcc 13440

tggcgacaaa ttttaaagaa atcacggcga gatggccgat tgtccacata gtctgggtgt 13500

accgttgtcc gacccgtgaa atcgtgcgca atgccttctg tcacacctga ttcaatcgtg 13560

25     ctgattcgct caagtgggag ccttatacga tttttctttgt cgaacggggc agggcaaagg 13620

tcgactttgt tgcgcgacga catgagaccc tgaacgtaca tgcagaacac ctgaccatct 13680
```

```
        tccatcgtga cccttacagg aatgagagac ttacgccaga acatcagcgc tttctccacg 13740

        ttggagtaat cgcgcggcca gacttctgca ggaatcccgt aggtgatgtc agttttattc 13800

        gtcatatcgt cacagtgtcg ttggtaggat atcgatgtca cctgcgttgc tggtgaatac 13860

        ccggaagact ttcgtctcgc cagctttggt gatggtctcg cgttcctgac gagcagggtt 13920

5       cagtgcgcac agcccggcgc cctcaagtga ggcgccaaca atccactgcc cggcatcaag 13980

        atggaacgtc gctttttcgc cggtctccag tttcgcaact gtctctccat taatgaagat 14040

        ggatgcgtcg cagcccgcac ctatcatacc tttgtccctc ataaccacca gcgtggttgg 14100

        ggcagacgtc tggtatttga aaactcttgc ctgcggagcc ggttttgcat tggctacaga 14160

        cactgggcgg gatgaacatg cactcaggag taaaacgggg atggtaatca gtggaagtag 14220

10      aacgtgtttc atggcttgaa ctaaatcctt atcacttcaa cgaacaaggc gtcttgcgac 14280

        gcccttaatg cttaatcgag acgtttgaga atatcggcca gatcttcttt ggtcatgcca 14340

        gaggattcgt aaatcttcat gaccttttca cgagcctttg cagaagcctc taatgacgta 14400

        gccgccttat caaaatcggc catcgtcatg ttggacagta ccagattgat gacgtctgct 14460

        tttgacagct ttatgttgcg ctcacgcagt cgattctgaa aggtttccag cttgtcgtta 14520

15      gcttttttcgg ttaactgaac ctggcagtgt atagcgcgtt tctcgctcat gcttactctc 14580

        tattcaaaac agtaaaatcg aatgtgctac ccaccggcaa gactccttcg gcaaaccctg 14640

        gcgtcgtgtc gataatgtgc ttccgctcat atgaatgcga catgaggtat ttattgctca 14700

        cgtcgatgaa gtcggtaata aagcacacgt tagcctgatt ctttttggct cgaagaccgc 14760

        gaccaactcg ttggcgcatc tcaacttcgg ctttgccacc gccacccaga atcaccgcac 14820

20      ctacgcttgg aacgtcgacg ccaacatcca gaatggttga accaatcaaa acatctatcc 14880

        tgcctgccgc cagactgctg agctttgctt gtcgggtagt ctggtttgat tctccgtaga 14940

        tgaaatcgac cttcaggccg ctttccttca tcatttccat cagaatctga ccatgacgct 15000

        tcaaacgaac cagcgtcata cagtttagac cgtgactttt gtacattaac gcttcgcgca 15060

        caatggcctc gttgcggccc agattgtaaa cgatgcctaa ctgataggct ttctggtaag 15120

25      ccgtactcat cccaacccga aagttaaggt gtttcgaagc aagttcggcc ctgattcgca 15180

        cctcgtctgg agtgtacgcg attttatgat atagaaagta gggttttgct aaaatacctc 15240
```

```
    ggtcgatcaa atattttttcc gtcacctttta tctcaatgcg acctgcaacg gccatgagac 15300

    gcatatttgc ttcggttgag tccttcatga acggcgtagc agtcagcgcc agacggtagt 15360

    cggcattaat gcacaaccgg gcgatatcgt agaagtttga accagatgat tcgtgtgcct 15420

    cttccagaat cagcagagaa acgctggaca ggaagcgctt aaccagttcc cggcgcttca 15480

 5  ggtggtaccg tttttttctct ggtgaggcat cgcgcggcgg ctcttcgaga aaactggcca 15540

    gggtctgcac cgtggcaacg ttgatatggc gcgagacctg gaactcacca gatccaatca 15600

    ccccaacttt ctgacctttc agccacggct cgccattctc cgcgcggtag tcgattgatt 15660

    tctggaagtt ctctgccatc tggaacatca gaaccgagcg cgtggttaaa aacagcgtca 15720

    tacgaccaat gcgagcagct gccttacacg ctacgttcga tttaccgcca cccgtcgcaa 15780

10  tctgggcaat catcatccct tcgcgcacca gtgtttccac agtctgatcc tgatacgcat 15840

    agtccgggtt atacgggaat gggttaacta ccgggttcgg cttgcccagc gcggggggctt 15900

    tttccttgcg cacatgcacg catttgatgc cagctttcag aaggttggcc gctactggct 15960

    tcgcaaaccc agccgggaac gcgttttttgc tccagttgaa catcgtgctg gtccctttcc 16020

    agtcaccagc ctccacttca tagctcaaca tctcctgaac gagccgcttc acgttgtcat 16080

15  cagcgccaga aatcagcgca ttgactgcat tcgatacaat ccgaactgtc ataaacctct 16140

    ttccttcgtg cctttttgtat ggtaattggc tattatagta agtaagtact tatataatgg 16200

    attgtatcag aattatggat gtgaaaatta cgattctgca ggtggaagtc gcgaacctgc 16260

    gtccgaatcc ctggaatacc aactccgttg gggcgcaaaa cttcgaaaaa ctgaaaggct 16320

    ctatcgaaaa attgggcttt tttaagccaa ttctggcgcg ggagctggac gggggcattt 16380

20  ttgagatcct cggtggcgaa caccgctggc gtgccgcgat ggagcagggc atttcaacgg 16440

    ttcccgtcat ctccgtgggc aaaattaacg acctggtggc caaacagatg tccctcgtcg 16500

    ataacgagcg ctacggcgaa gacgatcagg ttgctttgca gcgcttaatc gaagaaatcc 16560

    agtctgaaat cgactaccgg ttgtccgata tcgccccgta tgacgacgaa atggcggcaa 16620

    cactcgccaa agcgtccgtt atcgatcttg aagcgctgga agcgctctcc cgtggagatg 16680

25  acgagccgat cgaagaggac aaacgcgaga aaaccgagcg agtcggtgct gaacaccaga 16740

    cgatgcgctt caaggtgaca tttgatgcat cagatcgcgt cgccgacacc atcaaaacca 16800
```

```
tcatcaaaga gcagggaatc aataccggta acgaaatgga gaacgccggg gaagccctgg  16860

tgtggctggt cgactactac aaggagcgta tgtaatgacc aaaaactttg aaatcgtcta  16920

tcgaaacccg gcagaactca tcccgtatga gatgaacgcc aaaaaacatg acgaacagca  16980

gatccgcgac ctggctgccg ccatcaaaaa gcgcggtttt gaccagccga tcacggtcga  17040

caagcacgac gtcatcatta ctggccacgg tcgtcgcgag gcggcacttc tggctggtct  17100

ggagcgtgtg ccggtcatcg ttcgcgacga cctgagcgaa gaagaagtga aggcaaaacg  17160

cctggaagac aaccgcctgg ccagtattga ctacgacgcc atcaaattgc agcaggaact  17220

tgaatccctg gtgctgggcg acgttgaggt cttcggtttt gaagagcgcg agctgaacgt  17280

gcttgtcggc agcatgaccg aagagatgga aaccggcgct ctggtgctcg atctgggcga  17340

agagacggaa cgccagaaag aagagcacac cgagatcagt cgcgaagtgg ccgctgaaga  17400

agtccgcgtc atcgacgtat tgggctttaa aacgctccct gctggctctg ccattgtggt  17460

tggggatttg cttgcccaca tggaggaaat cacgggagag tgcggggtag acgctttcgt  17520

ggcgtatgcg gagaaagttt cttctgggga gctggctgca tgagcaaata caccatcaac  17580

gtatcgtttc agacccgcgt gaataaaacc atgcgcacgc tggagattgc cgaatcgttc  17640

ggtcttggcc tggacgaaaa agagtggacg ctttacgaca atctggagct ggaagtgaag  17700

cagggcgatg tggtgtacat caccggtcag tccggttccg gcaaatccgt tgtgctgcgc  17760

gagctgcaac gccagatgaa ggatgaaggg ctttctgtag cctccatcga tgactttacc  17820

ttcaacaatg aggttaacgt catcgaccag ttgggcaaaa ccaccagcga tgcgctgggg  17880

ctgctgtcta tggccggatt gaatgacgct tatctctttg tgcgcaaacc atccgaaatg  17940

tccgacggcc agaaataccg cctcaagatc gccaagctga ttgagtccgg cgccaaagtc  18000

tgggccgccg acgaatttgg tgctgttctc gaccgtgtaa cagctcaggt tgtggcgtcg  18060

aacctccagc gtgccgcccg caaggttggt gcgacggtaa tggtggcgac gacccacgaa  18120

gacctgaaga acgcgctgcg cccggatatg cagatcacca gcactacaa agaacgcgtg  18180

aaggtggaat atgcctgatt tgaagatcgt tgagctgaag ccatcgaaag aggctgacaa  18240

caacaacgtt gaagtcatcc gcctgctgga agaagcactc cagcacgcca gagaaggtaa  18300

aagccagagt ctggcgttgc tgatgatcaa caacgacggc agtgttctgg attgctggca  18360
```

```
taacggtggg cgtccatacg tcatggttgg ggcgatggaa tcgcttcgcc tggacttcat 18420

caatgccaat atcgagcgca ggtgatcgac atgacagaca tcatcatcaa acgctaccgc 18480

ccggaagagt tcccgcgtca tctggacttt ctggagcgta tgaccgttac caaaggcacg 18540

gttgaagact ggcacgcgct gaagtcgctg cactataaga cggatggtaa gccgttcgcg 18600

ccaacgtatt atcgctgcga actggacgac cggctggtgg gcgtcgtggt tatggcttac 18660

ccgaaactgc tgctggcgcc tcgccatcgc atgtttccta agctgaagcc aaccaccaat 18720

accaccgtgg ccaaccagta ttgggggcgg tacgtgaaca caactttgc ggtgattagc 18780

cgttccgttg tggacactca gtaccgcggc gtcggcgtct cctatcgaat gattaacctg 18840

gttagcagga tgcacgaccg gccaatcatc gagatccagt cgtcgatgag caaatacaac 18900

ccgtttgcca tgaaagcagg gttccagttc atccgtccgg agcgtccgaa gagctatgag 18960

agtgcgttgc gcgtcttcca gcgtcatttc cgttccgacc ctggcgacaa cgaagcgatc 19020

gtcaaagagc tgttcgccat gagtgagtct cgccgtcgtc gtgcgctgcg tgatctggtc 19080

gctgactacc acaagaacag ttccctggcc aaagccgggc gtaatcgtgg cacgacgatt 19140

caggacattg ccgacagcct ggtggacgag gccagcattg tgaagctgct caaggatatt 19200

cacaacctga gcttcacgtc tccgctgtat ggcgtgtacc gaaacccgga ctttggccgt 19260

cagttgcctg acacgctgcc actgctggca ttcgacaaac agcctttgaa caaacctctt 19320

gaaattgcat taccggcata aggatttgcc atgacgttga ccgacaaaca aaaagacatc 19380

atcaaaacca tcaatttagg ccatgagcgt gggcatctgc tcgatctgga cgagctgctt 19440

gaagtgctgc cgtacaaaac gaccaaacag agtatgcagt tctctatccg cgcactggtg 19500

aaaaggggc tggtggagaa aggaatgtgc cgccagcgcg gtgattctgg ctaccaccgt 19560

cgcacgctgg ggctgaccac gttaggtcgt gccagagcca aattactggt gatgtaagtc 19620

ggtctgggag ccagtttgag agcctgcttc cgtatatata aatactaagt gacttattaa 19680

atatatacgg aagcaggttc tgaatactcc ccagcccggt tttaaacacc cagaaaacaa 19740

attggttagg catagaatta aacaagttgt ttaggagcgc aaggatgcgc tctgagtgtt 19800

ttagagggat ctatgactgt agaaaaagac gagagcaaaa ctcgcctgac gccagctgag 19860

tgggcagaag ccgaagcgaa gtggacttcc ggtgaataca cactctccaa gctggaggaa 19920
```

gagtacggca ttcgtcgtga aacgctctcc agacatttca aaaagcgtgg attagagaaa 19980

ggcgcggact ccgtggggaa gatggtgcgc gagtcgctca aatccgacgc agagctgcgt 20040

gcgaaggcgc gtgcagagaa aatcgaagag cgccggactc gttacgacga ttgggcgttc 20100

gcactcggtc ggatggtgat gcatgaggtg gccacagcca agaaggacgg caagccactc 20160

gcaaccatcg aagatgacct gaagagtctc cagcgtgcca gcggcacact cgctaagtgc 20220

ttcgaagtat cgtcgaaagc gctcggtatg gatcgcgccg aaaacgagga cgacgaaatc 20280

ccgaatctgg tatttggcga acttacgcct tcccaggtgg cgcagctgcg taaggaagat 20340

gatgagccgg atctgattga tgacgatctg cttgagtcac tcgaagagga agcactgagc 20400

gaagctgagg gcgattctga cgcgtctggt gatgaaagtg atgggagcgt ctaactatgg 20460

ccatcccgtc gtctctgagt ctcgtacagc tgcattctgg gcagatgcaa gtcttccagt 20520

cgccacatcg tttcaaagta gtgtgtgcgg gtcgacgctg gggtaaatcc cggttgtcga 20580

tttccaccat cattcgcgcg gcagccaaag agaagaagca acgtgtctgg tacgtcgcac 20640

cgacgtacca gatggctcgc cagatcttgt gggatgacct gcaggaagtt ctgccgcgta 20700

aatgggttcg taagaaaaac gacaccacga tgaccatcgt gctgaagaac ggctctgaaa 20760

tcgcgctgaa aggtgcggat aagcccgata cgcttcgtgg tgtggcactg cactttgtgg 20820

tgctcgatga atttcaggat atgaagccgg atacctggta caaggtactt cgtccgacac 20880

tgtcctcaac ccgtggcggt gcgctgatca tcggtacgcc aaaaggcttc tccgagttcc 20940

acaagctgtg gactatcggt cagaacaaag atttgcaacg caaagggcag tggaagagct 21000

ggcagttcgt tacggccgat tctccgttcg taccgagcgc ggaaatcgaa gcggcgaaga 21060

acgatatgga ccctaaatcg ttcgcacagg aatacctggc cagcttcgaa aacatgtccg 21120

gacgcgttta ctacccgttc gaccgcaatg tgcatgtgaa gccactccag ttcaatccga 21180

aactgccgat ctgggttggt caggacttca acatcgaccc tatgtcatcg gtcatcctgc 21240

agccgcagcc aaatggtgag ttgtgggccg tggacgaggt tgtgctgttc tcttccaaca 21300

cggctgaagt gtgtgatgag ctggagcgcc gtttctggcg ctggaagtct caggtcacta 21360

tcttccctga cccggctggt gcgtatcgcc agcacgcacg cggcgaatct gacgtcgata 21420

tattcaagga aaaaggtttc ctccgagtcg attatccgaa gaagcacccg cctatcgcag 21480

accgtgtgaa cgccgtgaac cggatgttga tgagtgcctc gggcgaaacc cggttgtaca 21540

tcgatccgaa gtgcaaacat ctcatcgact cgctggagaa ggtgatctac aagccaggct 21600

cacgcgatat ggataagact ggcggcatcg aacacagtgc ggatgcgttg ggttatccgg 21660

ttcatcgtag gtatccggtg aaaaatcgtg ttattcttgg tggatctaga taagtaagtg 21720

cctacctaaa tatggaaaag aaacaaatgg aattgactga taagcaaatc aaggaccttg 21780

tggcacgacg ccacccggaa tatgagaaga aaaagaaca ttgggatttc ctcgccagca 21840

cctacgctgg cgggcgtgcc tggttcaacg acaatatctt tcgttacttc aaagagggcg 21900

atcaggagtt caaagagcgt ctggaacgtg cctatcgctt caaccacact cgtgaagtgg 21960

taaacctcat caacaaatac ctcttcaaag aggtcattca tcgcaacacg gatgaagcac 22020

cggagcagat ccgcaatttc tggaagcgag ccacgcgcca gaacgcctcc atcgatgcgt 22080

ttatggcggc tatcgatctg caatcatcca tctatggtcg catctgggtt gttgtggaca 22140

gcaccatgaa cgtcgatgtt gagtctgttg cagacgagaa gaaaaatgat gcgcgcgcct 22200

acgcttactg gatttcgccg cagcagctgc ttgatgttgc ctgggacgaa gacggcaata 22260

tgttgtgggc gctgattgtt gaaatcgcgc gcgacgacga agatccgttc acgtcaaccg 22320

ggcaggaata ccagcgttac cgtctgtgga cgcaaaacga gtggtatctg ttccgtgaag 22380

aagtgaagaa aggttccgga aatagcggtc gtcgtcaggc caaagtcgtt ctggaggata 22440

gcggcgagca taatctgggc gtggtgccgg tgttcccggt ggattgcatt ggtgaaagcg 22500

agtctccgta tttcagcccg tcgttgattg atgatatcgc ctatcttgac cgcgccgtgg 22560

ccaactacct gtcgaacctt gatgcgatta ttcaggatca gacattcagc cagttggcga 22620

tcccggttca gtcattgctg ccgggcgatg aaaaccacac caaagtgctc gaaatgggga 22680

caaaacgcgt cttcaccttc gactctgaga gcggtaatca gccattctat ctgtctccag 22740

acccgaaaca ggcccagatg atcatcacca cgattaagac ggtgattaac gagatctacc 22800

actccgttgg tgtggcaggt gagcgaacca agcaggataa cgcacagggc atcgataact 22860

cttcgggcgc agcgaagatg tacgacttcc agcgcgttaa cagtctgctg gtgacaaaag 22920

cagaacgcct cgaaagggca gagcgccaga tgatgcaact ggcagcgaaa tggatgggtg 22980

tcgaactgga tgaagaccac tctctgatcg cgtacccgga aagttttgac attcgcggtc 23040

```
tgactgacga gtttgccgtt gctgagaaac tgtcgctgct ccaggcgcct gattctgttc 23100

gtcgtcatca gatggaaatg ctcatcgaga aggtcttccc gaacatttct gaggcgatgc 23160

aaaaggaatt tcaaaaagat ctcttgaaat ttcctccaaa aaatgatctt aacacccttg 23220

aaaataagtc agtacttact tatgatcgag atatatccca agaaagcggg caagatcaac 23280

cccgagggaa tggggactca tctactcaag agaccgagtg ataagtaacg aaaaggaatt 23340

tctatgaatc tgtggcaaat gcttatggcc cgtcgtggcc tgatggatgc agctgaagcg 23400

catgagcgcg gaggcgctgg tggcggtgct cctgctggag acaacgagca gggcaatcaa 23460

gacccaggta aacagggcga gcaaaaagag caaccgaagg gtgacgacga cgagtatgcc 23520

ggtatgactc aggaagagtt gctggcagaa ctgcgtaagt ccaagaaagc tggtgctgac 23580

ctgctgaaag agaacatgaa gcgcaaggag aaagagcgca cattggccga tcagctggct 23640

cagtacggtg atattgaccc ggcgcgtgct cgccagcttc tcgaagctga acaagccgca 23700

gaaaccgcac gccgggaggc ggagcaggct gaactggaac gccgtggtga gttcgatgct 23760

gtgaaaaagc agatgatcga agcgcaccca ccaggctgaa ctggcacagc gcgacgaacg 23820

ctactccgct ctggagagcg agaacgccga actgaaggct caactggtcg aaatgactgt 23880

tggcgcttcc ttcagcggct ctgccttcct gcgtgacaaa gttctgatga ctccggctaa 23940

ggctcgcgtt atctacggct ctcatttcga agtgggtgaa gacggtagtg ttgtgggctt 24000

tgataagcca gccggtcaga aagagcgtgc agttctggtt gacggtgaag gcaaaccgtt 24060

accgttcgaa tccgcgattg aacgcattct gcgtgcagat ccggaagctg acgcactgtt 24120

gcgcagcgaa gccaagcagg gtgctggttc caatagcaaa ccgacccaca agtaaacca 24180

gccgaagagc aagtcgacta tggataagtt gacctccggt ctggggaaaa tcggactcaa 24240

gtaacatctt aaatcatagg gaaatgaaag atgccattac tgcgtgatga agctgaaaag 24300

ctatctaaca acgaacttga gcagggtgtg atcgagacca tcatcgatcg cgatgacctg 24360

ttcgctgttc tgcctttcat gaagattaac tctaaggcat acctctacaa ccgcgaagct 24420

accctgagcg aagcaacctt cattgatgtg aacgacacca tcaccgaagg cgctgcaacc 24480

ttcaccgaac acgttgcgaa gctgcgtatc ctggcaggcg acgtagacgt cgacaaattc 24540

ctggcgacca ctatgtccga caccaacaac cagctggcaa tccaggttcg tcagaaggtg 24600
```

```
aaaggtctgg cccgcgcatt ccgccgcaac ctgattctgg gcgactccac caccaacacc 24660

aaagctttcg acggtattcc gaagctgatg cacgacgatc agaagatcga catcgaaggc 24720

gcttccatga ccttctccat gttcgacgag ctggtcgacg cggtgaaaga tctgggcgca 24780

gactgcatca tgatgcgttc cgagcacctg cgtgcttatc gcgctctgct cgtaccgtt 24840

agcctcggcc cgtcagaaat catgatggaa aacttcggcc gcccgatgct gtgccacaac 24900

ggtgtaccgt tcatcgtgaa cgacttcatc ccgactgatg ctggcaaagc aagcatctac 24960

tgcctgcacc tgtccgaaga gaacggtgtg accggtctgt atggcggcga aaacgccggt 25020

atcgttgttg agaacatcgg tactgttcag aacaaagacg caacccgtac ccgcgttaag 25080

tggtactgct ctctggcgaa caagcacgat aaggctatcg ccgcgctgac caacgtaaaa 25140

atttgatcag tatcgtaggt aagtaattat ctaccattta agggtgggct atacgcccac 25200

ccttttgta ggagcgagaa atgccagaac aaaagatgaa gatcacggaa gaggcgtttt 25260

cggatttcac ggggcatatg tgccgtgccg gattcaccaa ttccatctcc aacgagcctc 25320

tgagcgagcg ccagcagaat catcttgcgg cttgcttccg ggcaattccg ttcactcagt 25380

ctgtcaccat tacaccgact gcgccgtccg tattggtggg caaaaccgtt caacttagtg 25440

caggtatcac catgagcaaa agtgcagatt cattcacctg gacgtcagac aatgaccggg 25500

tcgccacagt cagcggtacg ggtctggtta ctggcgtgac tccgggcaaa gtgaagatca 25560

ccgccaccga taagcagact cagctttctg cctcagtcga agtgatcgtt aagcctgtca 25620

gcgtggagtc cgtaaccgta acgcctgact ctacctccgt tgagaagggg aaatcggtca 25680

agttgcgtgt tgatgtacaa ccgtcaaatg caaccaataa aaaagtcacc tggacttcca 25740

aaaatagcga caaagcgact gttgaccaga acggtaacgt agctggcgta gccgttggta 25800

cggcaactat tgaagtggtt tcgcaggatg gcagccacaa agctactgcg actgtggaag 25860

tgactgcagc accggctgcg taaccaatac atgggcggca tagccgccca ttaagtgaga 25920

agaagaatga aaccagcaaa aattcgttta ttggagcctc aatttttggg gtacacgggc 25980

attctctgcg gtatccagtt tgtcgacggc atctcggttg ccgaactgcg attcatcgat 26040

cagcagcgga tttgtgcctc catgcgtgcc actaccgttg aaggcaaaaa tgtatctcct 26100

tctgccgcgt acagcagccg caatgatttg actgcggacg acattgtcga gacggcggcc 26160
```

```
ccggatattg tgccaatgaa acgtggtaca gctgaagtgg aagccaaacc ggtacagcgc 26220

tttactcgtg aagaactgga gtcgattgcg gactgtgaag gtattgcggg tctgcgtcag 26280

atcggcaacc agattggcgt gaaagccaaa ggcatcgttg aaatgatcga aggcatcctg 26340

aaagcacagg gcggtgagta atggcgcaga tcgacacgta ccgtagcggg gaagctgttt 26400
```

```
ccctgtcgtt tgcatttaac gttctggata ttgagtcggc cacgtatacc gtcagagatg 26460

gcgctggcgc gatcatcgtc gataacgaac ctctcgatat tactgagggg cagatgtcca 26520

ttccggttgt cgtgtcggcc gaacacaacc tgctttcaga taaagagcgc gatctgcgac 26580

acgtcattgt caaagcggtg gcatccgggc tgacgcatga agagcgcaag atgtacgttt 26640

tgctgaatag cttcgagctg tcaattccag gccagtcatt cgcaacggtc gcagacgccc 26700
```

```
agatgcaagc tatcgatatg ctgaacggcg acaccctgtt agctgatggc gaagggctga 26760

tgcgcaaacg tctcattgag gccaccagac gcgtcaaaac gctgccgttc tcaatccgca 26820

aagtcctgcg tatcgacttc gaccggtacg atcgcccgca aaacatgctg aacgtctatg 26880

acattccgtg gggcgctgac ggggcatatc gtcacgatct gatcgattgg gagcagatga 26940

cgccggagaa attcgacgag ttcccggact acttcaaaca ggcattaatg ctggccgtgg 27000
```

```
ttaatgaagc ctgcgaaatc gctaacggta atgacgtagc ggcagcccgc gaggacggca 27060

ttctgtctga gtccattggc gaaacgacca atatgtaccg taccggcaaa gcggcaaacg 27120

tgcaggtggc tcgcagtacc tggcgactgc tggtcagtta catcaataac cgcatgattg 27180

ttcgccgtgc gtaacgccag tcgcattatt tacttctggt cgaaaggctc aagacgagca 27240

atcgcgcctt cgcctggtaa tgagtgcggc tgccaaccac agggagagtg catgaacatt 27300
```

```
tcatggcaag cagagatagc gatttaccgt ctgggttcga agaacgtcta cggtgaagcg 27360

caattgcagt tcgtcagaaa gacgaacgtc ggcgtcgtta agtttgagca aagtaacgag 27420

aagtcatcgg tacgtgctga cagctccggc agtcgcggta aagcgaatct ggaattgttc 27480

gatgctgttc tggtgatccc acttgaggcc gcagtacagc ttgatgacgt tctcattctg 27540

gagggcaaa agctgaaggt atccagcgtg catcgtcgct ggggactgcg tgggcgccct 27600
```

```
gggcatctgg aagtaggggc aaacatatgg gtctgaagta cgacgcgcat cattttaagc 27660

gtgctggcga caggctcaat aacagccaga aagcctttaa gcgttatctc atccgtgaca 27720
```

```
    tggagaagct ggcgcgtctg gttgagcgtc tggcgcgggc aatggccccg ctggagactg 27780

    gctcactcga aagcgcgatc ttcgcgagag ttgtcaaaga aggctatacc gggctgcgta 27840

    ttgagttatc ggtatctgga gccaaaccac gcgaaggtca tccgggcgtt gaggttggcg 27900

    attatgcgga gtacatggag ttgggcaagt atcgtctcgg ctatctatcc cgcatgaaga 27960

5   gcgtcaccaa cccgccagtt gctggagtga agccacgagt tgggcctttg ttccttgaga 28020

    gagccgtgca gatcagtgag aaacagttca ctcagacgat agcagaagcg gcaaggaaag 28080

    caggttttac gagaggttga tgtgtttatt gaagcatttg cgagcctgat gcagaaggcg 28140

    aagatcggta cagtcggcac tgacattttc tgtcactaca tgccagccaa tgtgaagtcc 28200

    ggtgttctgt tggttactcc caatacgggg atcaccattg accatgagtt aaaaggcttc 28260

10  tatcacgact ctttcaccgt catcgtgcgt aatgcgacga ttacaaagac ggtggcgaaa 28320

    gccaataaga tcatggacat gttcccggtc gaagaaaccg tgtcagatgg cgtttacttc 28380

    cggttggttc gaccaatgtc gatgccgatt acttatccca aaaatgaagg ttcgttgatt 28440

    gaagcgggta tcccgattga atttgcgggc tatttgttga attaataaaa taggtaagta 28500

    tatacttatc attaacacca tgaaggtgct gatttaacgg aaaaaggagt tttccaaaaa 28560

15  tgtccaatac ccatgtaaaa aacatcaaac ttggcgcctg caaagtgtcg tttggtggcg 28620

    ttgatctggg ttacaccaaa ggcggtgttc aggttgaagt tgcgaccgaa actctgaaag 28680

    tcaccgtaga ccagctgggg cagaccacca tctccgagct ggtacagggt cgtaacatca 28740

    ctatcactgc gccgctggcc gagtctgtgt tgcagaatat ggtcgatctg atgccgggtt 28800

    ctaccctgag cgaagaagag aactctgtga ccatcacttc cgcacagggc gtcaacctga 28860

20  tcgacgtagc caaagagctg gttctgaccc cgcaagatac caccgactat gtcctgacca 28920

    tcccgaaagc tgcaaccgca ggtaacttca ccatgaccta ccagtctgat gatgttcgcg 28980

    tgttctccgt tcagttcacc gcttacccgg atgacgacgg cgtgctgggg aaaatgagcg 29040

    gcccaaagcc ggttaaaacc gtctctatct ctccggaatc tccggaagtt aaagccggtg 29100

    agaccgtgca actgactgcc cagatcaccc ctgcagatgc cggcgacaaa accggtgtgt 29160

25  gggaatccga caatcaggag aaagcaaccg ttgaccagac tggtctggtt cgcggagtag 29220

    ctgaaggttc ggcaaatatc tcctttacca gcaatagcgg cggcaagaaa gcgaccaaag 29280
```

```
cagtaacggt taattctgcc caataatcgc gacgtaatta agcagaggct caggaagagc 29340

ctctctttta aaaggacttt aaccaatgac caaattactc gatctcgact ccattctgcc 29400

tccgaagaaa agcatcaagt tcggcggtca ggaatatccc atcgttgaaa tgactgttgg 29460

cctgttcgtc tctatcaagc agatggaagg caaagacctc cagaatatgt cgcctgttga 29520

gcaggttact gcttacgccg acctggttcg caaggtcatc ccatccgtgc cggacgctgt 29580

actggaaaaa ctgactgttc cgcagctcca gcagatcttc accttcgcta tggaagtgat 29640

tgatgaagag aacgaaaaag cggctggtga agggcaaag taatttcccg cgatgaatcc 29700

ggggtaaaga ccgtatcgat agatctcgga ttctatttca gtcgtgtagt tgctcactac 29760

gccgtgtcgc cattagagct gctgggcgtc cctctaacga tgttctggat gctcagtcgc 29820

aacatcgacc gtctgcgtgc ggaagaggat gtccgcaacc tgcaagtcgc tcgcgctgcc 29880

caggcagatg gcgagggcgt aaaggcgttc atggagggtt tgcaactcag gattggaaga 29940

ccagtcgtaa ccgataaagt ctacgatcca cgcaaggata aggcagaccc tgacgccaaa 30000

gagcaactga tgcaaatttt tggcagagga tgacaaggga atgtcacaaa acgtagagtt 30060

tatcctgtcg ctggaagaca agcagtttac agcgtcaatc gaccgggcgg gtaagctact 30120

taccagattc ggggagcagg ccacaaagcc agctcagaaa attaacaatc tggaacgctc 30180

gttgggttcg gtctcccgca tcatcggcgt tctggagtcc aagctcgatg tcacggcaga 30240

aaaactacag gatgtagctg ccggcttcga gcttgtgtct gatgtttcgc gcaagacgcg 30300

aggcagcatt accagcctca actcaggtct caaaaccctg attgagcgcg tcgacacaac 30360

cacctcatcc gttaataagc tcaccacatc gctgcgcaag gttcagtctg aactcaatga 30420

gttttccgat tgggcaacgt tcgctggcaa gagcgccagc cgcttcggta cggaggtaaa 30480

agaagcctct gcatccgtga gcggcatgaa tacgcgtctt aacaccacga caaagcgtct 30540

cagtaattgg ggtgtcacaa cgagccaggc tgctgagggg ctgaagaaag tccgcgatca 30600

gatggatgcg gtgattggcc gccagcaact gatcagcaag ccggtacgtg tacgcaccag 30660

tagctacggt gatggcggtg gtaatggcgg tggaggtcga cacagcggtt cctatggcca 30720

cggtgggcgt agtgctgaaa gtggtgtgtt ctctggtctg cgcggcaaca ttttcttgct 30780

tggcgagatt ggtgatgcgg caagaacggt aactgacatc ctgttcggct ggcagaagcc 30840
```

```
aatcatcgaa gccgcctccg aaatggagcg tatgcgtgtc atgttgcgcg ggctgaacaa 30900

ggataaggcc aaccctggaa aagccgccgc agaggatatg cagtacatcg tggatatggc 30960

gcaaaacgcc ccgtttgcga tgcaggcgct gaccgattcc ttcgttaaat ttcgctcggc 31020

aggtctcgat cctactgacg gatcgctgaa agcactggtg gactccgttg cacgcttcgg 31080

cggcgatagc gaactgctta aacgtgctgc cgtggctgtc cagcagatgt ccggtaaggg 31140

cgtcgtgtcg atggaagaac tgcgtcagca attaggtgaa gccgttccta acgcgatgaa 31200

ggcgatggca gacgctgccg gtatcactat ggggaactg accaaagcag tctccaccgg 31260

tactgtggaa gcgaaacagg cgctatcgct gatgttcgtt ggtctgcgtg cggagaacga 31320

aaacgccgcc aaagacatga tgcaaaccta caccggtgcg ctggcgcaac tgcaaacctc 31380

ctttacgctg tttgccgatc gtgtcggtca ggcgggctat ctggattctc tcacaaaggg 31440

gatgaaagag cttgcttcca tcatgaacag cgctgaaggc atttcgttcg ctaactcgct 31500

gggttccgga ctctccacgg cgatcgacgg cttacgcgag ctggcgcagt ggctggctaa 31560

aaaccaggag ctggttatca gcctgggcaa agtcgttgcc gcaatggtgg cgttcaagct 31620

gatgcgtgcc gggattgcag gcgtgattgg cactgccggg caaatggtta acacatttac 31680

caagatgtcg accgttctcc aggctccgtt caatctgggc gcgacagctg tcacccgctt 31740

taatcgtgcg gctcgtatgg ggctggcccc aatcccatcg ctgatcttcg ctatccgtgg 31800

cgcgattacg gggcttcagg gcgcgtttgc tgggctaact gcgttcattg cagcaaaccc 31860

aattggtgca gcgttcaccg tagctaccgt ggctgtggcc ggtcttatca cgtatatgac 31920

catgctccgc agcgaaacgt ccaaagtcgt ggacgagatc cgcaaaatcc cggaggcgat 31980

gacggcggcc aagcgtgcgc agatggcagc gcgtgcagcc gagcttgaaa agcagatcca 32040

gcgagaccag caggcgctta aaactggcga aagcgtgaac tactactcca cagcggctgg 32100

ccctgtcgcc gtgaaggagt ccaaagaggt tgttgaggct cgcctgaaga aaaatcagga 32160

agagtacgaa agaacaaccg gcacgatggc gctgggtgat ggcgcagtgg ccaaacgcct 32220

ggcaaaagaa gctgccgaat cccagattga gaaaatccgg gcagataacc aggtcttctc 32280

tgcgacgttt gtgaaagccc gtcaggaggc tctggataag atccagaaaa tcaacgacga 32340

caaatcgctt tcggacgacg agaagaacaa gctgcttgca ccgcttcgcg agaaggtgaa 32400
```

```
          caagtcctat ctggaaccgg cacagaagct ggtctacgac ctgtcttctc gtaaaaacgc 32460

          caccgagaag caaattgccc acttcagcga catgctggag aaagcgaaga aagaggggaa 32520

          caccgagcag gttcagaagc tgcagggcag catccgcggg tatcaggagc atcttgaagc 32580

          tgtagctcag gagctgactc aggcggagtt cgagcgtgat agcgcggcga aaaccggtaa 32640

5         gggcgtaatg tccaaccagg gcaccgttct ggggttgggg acgaccgata aggcggctca 32700

          gaaagcactg gcgcagtata tgcggaacca gatggactcc gcgacctacc agcgcacact 32760

          gccagacggt acggcgatgc tggacttcga aggcaagccg atcatcgggc cgaaacagct 32820

          caaaacccag ctgaacctgc agaaagcctc cagcgccagc tctctggaga aaatgagcga 32880

          cgaggaacgt gctgccgcga tcgccgcact gaccaaagcg cgtgagcagg acgcagcagc 32940

10        agcggaaaaa gccgggcagc gtactgccaa tgcttctcag cgtgccgcga ggaaggaaga 33000

          aaatgcgcag cgtaagctgg cggccggcta ccagaaagcc ctggataaag ccgatcagct 33060

          tatggggcag atgggggaaa gctcaaaagc gaccgtgtcg tttgaccagt ctctccgcga 33120

          taccaccaaa tcgctgaccg aactggccaa cgccgtaccg aatgagttca tcactcagga 33180

          gatgatcgac aaagccaagt cacgcctcgc tgacctggcg aacgcgagcg acgactatcg 33240

15        cgagatgttc aaccgccgca acgtcgagca gatgatctcc acctgggcgc cggaatccga 33300

          ttccatcatc agcgcgggtt acaagccgtc tcgtgaagag aaggtggccg atttcaacga 33360

          cacctacaac cgtaatctga aagcgttgat ggatttgcgt gaccaggctt ctgatccgaa 33420

          aatcgtggcg ctctacacca agcagattaa ccagctggtg gcggcaggca acaccgcgct 33480

          catcaaagag acgggtacgg cgacacagaa gctggcgctt gagtacgaga atctggccga 33540

20        acagctggaa aacagctgga gcaacctgtt cagcaacatg acggatacgc tgaccgactt 33600

          cgtcatgaag gggaaactgg acttctccag cctggcagag tccattctcc gcgacatcac 33660

          caacatggtt gtgaagacgc agatcactct acctctcatg aacatgctgg ggatggggac 33720

          gacggcagcg ggcagctctc agagtggcaa tctgctttct ggtgtcgcgt ctgcggttgc 33780

          caaccagggc gtccggatga atgcggtcaa cggcgataag agcgtgggtg aggcgacgaa 33840

25        agagacctcc agctcggtct ccggtctggg gcagaccact cagcagacga ccagcgcgat 33900

          tggttctgca accaacgcga tcggcaactg ggtaaatgga ctgttcacca gtactgaagc 33960
```

```
      caaagacgcg gaaaccaaag cggtgaagac gtccatcttc tccatgcaga accttagctc 34020

      tgtcacgggg gcgctttctg ccgcgtttgc tatgctgggc gcaaacatgt ccggctctgg 34080

      cataagtgg ttgagtttcg cgctaccat tgcctccggg ctggtgtctg cctgggctgg 34140

      tggtggcttc gataacatcg gatctggttc ctccggctct aactccggat tcaacaatct 34200

5     caccggatcg gcatctgatg gtactggcgg cattccggca atcccgaagt tcgccaaagg 34260

      cggcattttc gggaaagacg gcgtggttcc gctgcgtgct taccagaaag gtggcatcgc 34320

      tgactctcca cagctggcgt tatttggcga aggggatatg aacgaagcct acgttcctct 34380

      tccggatggg cgttccatcc cggtcacgct caacgcagag ggtgttaaag gcggcggcgt 34440

      tttctcacct gtcagcattg aaatcaacgt caacagcgac ggcagtgtct cggagaacag 34500

10    caattccgaa ggcgcatgga gtcaggctgc gcagcgcatg aaggcgatcg cgcttgaaac 34560

      catcgctcag gagaagcggc caggcggttc gctcaaccct aactctcaac gtaactaacc 34620

      acggctgccc cggaaggggc ggtctcacaa ggatgtgaga tggaaagact gactttaac 34680

      tggtatcccg actacgagtc ggaaaagacc gtgaagccta acgtgacggt gctgaatttc 34740

      ggtgacgatt acgaacagcg tcaggcaaaa gggcttaatc gcattaaaga agagtggagc 34800

15    cttacttta cgcgttctta tgacgtcatc aatgccgtcg atgactttct gacggcacgc 34860

      gcggccgttg agtcgttcta ctggacgaac cctcgaggca aaaagatggt tgtggtgtgc 34920

      gacagccata ctgtgaagcg ttatcagggc tatctcgttc tcactgcgac cttccgacaa 34980

      atttatgaag gataatttaa cccactagat aagtaggtgc ttatttacta ttatctatag 35040

      gcgctgacag gatgttggcg cctctttatt tcaaggaaga aacgatgggt attaaagctg 35100

20    atattcagag cttgtcgccc tccgcgctca ttgagctgtt cgaacttgat atgtcgaaca 35160

      ccacctctgg gggcaagctg tttttccacg ccggtacaaa cgaactgatg gagccagtcg 35220

      tttggcaagg tgtgtcctac gaaccgtggc caatcaaggc gtcaggcttt gataagactg 35280

      gtcagggtac tttgccgcgt ccaaaaatcc aggtctccaa ctttgccgga accgtctccg 35340

      ctgaagtcca ggcaaatgac tatctggtgg gttgtcgcat catccgcaag atgacgctgg 35400

25    cgcgttttct cgacgcggcc aacttcaaag acggaaatcc gaccgcagat ccgaatcagc 35460

      attttcccga tgagatgtgg ttcgtcgagc agaagactct tgaaacccat gaggttgtcg 35520
```

```
agtttgagct gtcgagcgtg ttcgatctga tgggcgtgca actgccgtac cgccagatca 35580

tcaaaaacac ctgcccgtgg aaataccgcg gcccagagtg cggctatacc ggcccctatt 35640

tcgacaaaaa caaccagcaa accaccatgt caggcgcgga ttactgcacg aaacgctacg 35700

actcatgcaa cgcacgccgt aactactttg ccaatggcgt aatccacttt ggcggattca 35760

ttggagcaac acgttatggg taatagagct ttccctgagc ttgggtcgga cattatgcag 35820

gaaatctatc tgacagccat caaacgctac ccgaacgaag cgtgtggctt tctggtgcgt 35880

actactggcg agaaatatcg cttcatggaa gcccggaacg tgtcggagaa cccggaaaac 35940

acgtttgtga tgcacgctga cgacattatc gcagcggaag atgcgggaga cgtggttgcc 36000

atctggcact cccacactga cgaatcagct gatgcgtcag atgccgaccg cgccggatgc 36060

gaggcaacgg aagttccgtg gctgattctg gctgttcgga agaacgtcga gggcgatgcg 36120

ccatttcact tcagtgagat gaatgtgatc accccagacg gctttgagat gccttatctg 36180

ggtcgaccct atgtgttcgg tgtcttcgac tgctggatgc tgtgccgcga ctacctgaag 36240

cgtgagttca acgtcgagct gaatccgaac ccgcacctgc atattccatc gtggtacacg 36300

ggcgataccg acattctcga tcagaactac cgcaatgaag ggcttgttcg tctggcgccg 36360

gggacggaac cccagcgtgg tgacgtcttc ttcattcagt acggaaagat gcctgaccac 36420

tgcgcggtgt acataggaga cggaatgatc ctgcaccacc agatcgaccg tctgagctgt 36480

cgcgcttatt acggtggcat gtaccagaaa cacacgacgc accacctgcg tcacagagac 36540

ttactcaagg gagatgagac gtgtctgagt tagttcatgt gcaacttggt ggcccgatgg 36600

ccagacattt cggccgccac tggcatttaa aagtgcgcaa caccaaacag gcgttggatc 36660

tggtcgaagc caatcgtccg ggcttaaaag cctggatgaa gcgcaacatg aagacctacg 36720

acaagtatca catccagatc accaataagc aggggcataa gtggtcggtt gatgagagcg 36780

agtttcaaat gatggggcag tccgacaaca tcgcgaagat ccgcatcacg ccggttcctc 36840

gcggtagcgg cggtaaggct tttggttggt ttcagacagt cgtaggggca ctcgtcatgg 36900

ttgcctcatt ctggtttccc gcgctggccc cgctcggctt gtcgctaatg atgggggggta 36960

tttcgcagtt aatttcgccc caggcgacca atgacagtgt aaggcaggca gataactcga 37020

actcgtttta tttcgacgga ccacaaaaca ccactaacca gggcaacccg gttcagctca 37080
```

```
tttatggtga ggaaattctg gtcggctcac aggtagtaag ttcttcgatc accatcgacc 37140

agctttagta agaagggaaa tttttgaaca tggaacagtt caagaagaag agactgcctc 37200

tcctgattgc aggtgctggc ggtaagaaaa gcagtggctc cagccgcaca ccggttgaag 37260

ccgacgatac cgtaaactcg cgtgctatgg cgtccatcct cgacctgctc ggggaaggtg 37320

tcattggcgg gctggtggat ggtgcaaagt cgatcttcgt tgatgatctg ccaatcctta 37380

acgaagacgg gtcttcaaac tttagcggta tcacctggga cttccgcgat ggttcacaag 37440

accagacgcc gatggctggg ttcgatttcg ttgaaacgcc gaagtcagtc aacatccagt 37500

tgaaaagaat gcacgacgtt acgattgcca tcgataacga tgaggcagac cgtgtccgcg 37560

tcattctgaa gttcccgtct ctgcgtagca tcgacaaaaa gaccggtgat accaacggta 37620

cgaccgtgaa gtacaaattc cagattgcca atggcgataa tgccttcaag gacgccatcg 37680

cagaaggggga gagtgcttcc gaaattgcgc tgacggcaaa aaagacaggc gtctactacc 37740

gcagctatga gctaaaactg cccaagccag gtcgtgccta caaggttcgc gtgctgcgtc 37800

tgaccgatga cagcaatact cagtacatct ttaacgatac gtgggtggac tctatcggtg 37860

agatcgtcga tacgccgatg aactatccga actccgcgct ggttggcctc aaggtcaact 37920

cagagcagtt cggcagctcg atgccgtctc gttcgtatct ggtgcgtggc ctgaagatcc 37980

gcgtaccgtc caactacgat gaacacacaa acacctatat cggcgtatgg gatggcacat 38040

tcaagctgtt gtcatcttcc aaccctgcct ggattctctt cgacctgctt accaacgctc 38100

gttatggcct ggggcagtac gtttctgagt ccatgattga cctcgggcag atctaccaga 38160

ttggtcgcta ctgtgacgaa gaaattgaca atggattcgg gggcaaagag aagcgcttcg 38220

ctatcaacac ccagatcact agccgtcagg acgcgtaccg actgattcag gatatcgctg 38280

gcgccttccg cggtatggtc ttctgggctg gtggcatggt taacgtcatg caggatagtc 38340

cgtcagatcc ggtcatgatg ttcaccaacg cgaacgtcaa agacggcatg ttcagctaca 38400

agggatctgc gcgtaaagac cgtccgtcag tagctcttgt gacctacaac aacaaggaag 38460

acggctacaa gcagaacatc gagtacgtcg aagaccagga ggcgatgcgt cgttatggcg 38520

agcgtaaaac cgaagtggtt gcgttcggct gtacaagccg tggccaggcg catcgtgtcg 38580

gtctgtggct gctgtatacc gcacgcatgg agtcggacgt tatcagcttt acggcagggc 38640
```

```
        ttgatgcttc cttccttatg ccgggtgaaa cggtgctgat tcagaacaaa taccgtgctg 38700

        gtaaacgcaa ctctggccgc attgtggcgt tcacaaagaa cagcatcact ctcgacgcac 38760

        cggttacgct gaataaagcc ggtagctaca tccggatctt gaatcaggaa ggcgaaatcg 38820

        ttgagcgcga tattcttgag accggggaag acattaccaa agtgaccttc tccaaagcgc 38880

5       tcaattccgg tgatatgccg gtgatgaatg gcgtctggac gattaccgag ccagatctgg 38940

        agccaatgcg cgtgcgtgtt atcaacgttg cccagggcga ggctcagggg acgtttaacg 39000

        ttacggttgt ccagaataat gcatcgaagt acgaagccat cgacaacggt gcgacgctga 39060

        tccccgagaa caacacagtt ctcgacccga cttattcgaa gccgactaac ctgcaggtga 39120

        cggaagggac gtatatctcc agtccgggta acctctcaat caagctcgta gccacctggg 39180

10      agggtaagtc tgcggaatat tggatcagct ggcgtcgttc cgatgaaaac aacgtttcta 39240

        actggcagtc cgcacgcgtt accgaagagc agttcgagat cctcaatatt gctgagaatg 39300

        gtcaatacga cattcagctc tatgcggttt cgttcagcgg caagaaaacg gacatcatca 39360

        gcaccgttta tcaggtgaaa ggtacgatga cgccgccagg ctctcctacc tctctgacgg 39420

        ccgttggtga ctaccgcaac gtgattctga attgggtcaa cccggactca atcgaccttg 39480

15      atcacatcaa cgtgtatgcc tcccagacca acgatctgga aacggcgaag ttggttgcag 39540

        aggccgccag caccacgttc actcatgccg gtctgggaga tagtgagacc tggtactatt 39600

        gggttcgcgc ggtgaacaag cgtggcatgt taagtccgcc gaactccaat ctgggtacgg 39660

        aagcgatgac gcgagacgtc ctctcgttcc ttaccgggaa gatcacctct tccgagctgg 39720

        ggcaggagct gctggaggaa atcgacgcta aagcctctca ggatgcggtc gacgccatca 39780

20      acaaacagat ggaagagagt ctgaaagagc ttgatcagtc cgttgccgat ctggacagca 39840

        aactggaaga caccagcggt cggcttgagc aggtgcagaa cgacctcaaa aatgaagtct 39900

        ctggcacgct ggacaaggtc aacgacgcgc tgcaacaagt tgaggactct aatgcggctc 39960

        tggtcgagtt gcaggaaacc gtttccgagc agggcaaagc catagctggc gctgtggaag 40020

        cggcgcacgc tgcgctcgac aacgcctccg cgctgattgc tgaagagcgt gaagcccgtg 40080

25      tcgaaggtga taaggcaaat gccaaacaga ttgaggcaat gaaatcctcc gtcgatgaca 40140

        gtgttgccgc cgtcgaagag atgaaaaaga ccgttgccga agtcgaacgc gccagcgcgg 40200
```

```
aagcgtcgac caatatcgag gctctggcca aaaccaatat tgacctcgct ctgcgtcagg 40260

atgaagacca gcacaagcag atggtcaata atgcgaagat cgcaaccact cagaagacgt 40320

ttgccgacga tatgtctgca atggcctcaa aagtggaaga aatccgcgca gaaattggtg 40380

aggacatccg ggcgtcgatt ctggaagaga caacggctcg cgtagaggct gacaagacaa 40440

ttgcgacgca tatctccaag ctggaagccc agctcaacga cgatatttca gcggcaatcg 40500

tttccgagca agaggcgcgt gcgactgcgg atgaaacgct ttctcgtcag atcaccacgt 40560

tgcaggcgaa agttgaaggt gatatcagcg ctgcacttac tgaagagcag attgcccgag 40620

ccacagcgga tgaggcgcta tcgaagcaaa ttacccaact gaaggcacag aatggtgagg 40680

atatcaaagc cgccgttgca gaagagaccc aggctcgaac cgatgcagat ggtgctctgg 40740

cttcgcagat cagctcgctg aaggctcaga cggcagagga catcaaggcc gctgtcgaca 40800

cagagacgaa agcgcgtacc gatgccgact ctgctctggc cgggcagatc accaatctcc 40860

aggctcagac cggcaaagat atcaacgctg ctatcacatc cgaagccacc gcgcgtgcaa 40920

acgctgacgg tgctctcggt aagagaattg atacggttaa ggctgaagtt gatggcaact 40980

cggctctcat tcagcagcaa gcgaaggcga ttgccgatac cgataagaag gtttctgctg 41040

cctggacgct gaagatggaa acatctacca gcggcgggca gaagtacgtt gcaggtatcg 41100

cgctgggtat cgacagtacc ggtttatcac aattttttggt gcaggcagac cgttttggcc 41160

tggtcaactc cgtaaacggg aagatcacta cgccatttgt catcgaaaac agcgtggcgt 41220

atatgaacgg cgcttatatc aaagacggca caattacgaa cgccaaaatt ggtaatgtca 41280

ttcagtcgaa cgattacgcc gcaggcagta gaggctggat tatccccaaa gatggtagcc 41340

ctgagttcaa caacggtacg ttcagggggaa atattgctgc aaactccggc acgctgaata 41400

acgtcaccat cgcgcagaac tgccagattc tggggaaact gcacgcgaac cagattgatg 41460

gcgatattgt taaagcctac atggttaatg gcagcagtat ttatattgca cctcaaacat 41520

tcgccagaat tatctatgtg gtaaatggtt actactataa caagccatcg gaggatatta 41580

acacctactc atggtcaaga attaccgagt atacggtaaa tggagtgaag cagcagatat 41640

atggaatgag agaaggctct aaaaatcaat ctggcttgtt tggttattac aatttgccgg 41700

caggtcagtc tgcgactgtt gatgtttata cctggcatag acagcgtaaa tacgatcacc 41760
```

```
gcgtgaatga accttatctc attctggtgt ttaaggctta aaaatggaga aggatattat 41820

ggacgaaacc cctgtcatct ctgctgtaag gaacgcagtg cgcagtctta gtggcggtat 41880

ctcttgtgag attcaatttg atggccttgt tatggacgat ggtgtaaccc ctttgttttt 41940

gccatacacg ttgtcggaaa gtgacacatc acctttggcc aagaaaatac tggaggctct 42000

ggagtcggaa tccagtggtg gtatcgctcc gtaccccgaa caaggcgagt acatcgaaag 42060

attgaaagtt gagaaactgg cagtaattaa tgactggcgt cttcgtcagg agtgtcgcac 42120

cgtttatttc gaatggaacg gccaccgctg ggacgcgaat gacatttcca agaacgttt 42180

ggatatctcg cttaaagcag cggaaagcgg tctccctgac aatttcttct ggaccgatgc 42240

ggataataac gatgttccgg taacgcagga gcaactgaag gaattaggga tgagaatgac 42300

ccagacgttg ttcgaccgca agttcggcgc ccacgaacga cagagggtga tgaaaaaaga 42360

cattctggag atgtgtgatc ctgagctaat caaaaattat caggtcgggt gggggggatgg 42420

ctctgctcgg cggtagacat ctttctttat atcggtaaaa ataagtaagt gattacctat 42480

ggcgagcagg gatgcccgcc tttacaagga gcgaatatgt ggtacaggga aggtactatc 42540

acatttacac agggaagtga cgcactttct ggcactggca cgtactggaa tgtgaccgcc 42600

aacggcgttc tgccgggcat gatcgtcatc ggccctgaca acaagttgta cgaaattaag 42660

cgcgtaatta gcgacacaag tctgattctc gcagagccgt acacagggga gacccagaag 42720

gaagttccgt gccgcatcat cacaacctat gagggcgact taacgcagtt cagcgcacgt 42780

tttaccgcgc ttatgacccg tatgtcagcc gactcgaaga cgatgcgcag ctggttgacg 42840

gcagttgatg aggtaacgct tgagcgtgaa gacggtacgg aagtgaccgt gaagtcgctg 42900

acgcagatcg tcgatgagca caacgcaaac cagaaatggt atacggataa tgcagacgct 42960

attaatgcgg caggcgagaa ggctcgtgag gccgctgagc gcgcattagc tgcggcgcaa 43020

agctcttcag aagcaagagc aaaagcagat gaagccgctc aaagttcagc ttcagcatct 43080

gagtataaaa ctgcggcaga gctaagtgcc gctgcatcaa aagcatcgga gcacggcgcg 43140

gcagaaagcg cagcttcatc gaaggcaagt gcctctgcgg ctaaaacatc tgaagataat 43200

tctgccgcgt cagagaccaa tgcggctgaa agcaaggctg ctgcggcatt aagtgcgtct 43260

tcttcggcaa atagcgcctc agaagcattg caatacgcgg agtcagccaa gacctctaaa 43320
```

```
      gaggctgctg ctgcttcaga agcagcggca gccaatagtg aaaatgaagc cagaacctca 43380

      aaagataccg ctgtagcggc tgcggcagag gcatcagcta atgccacatc agctgatgcc 43440

      tccagacatg atgtcgatac caataaagcc gaagtatcga gaatgaaaga tgaagttttc 43500

      gctgctaggg actcaacgat tcagtatagc gaagaggcta aaacagcggc tgatacagcg 43560

5     gcaagagaag cagccacgaa aacatctgat cagctcctgt cggcggttaa atcagaggcg 43620

      gaaaaggcaa acagtgctag cgcaagtgct caaggttttg ccgatgacgc caagcgattt 43680

      agagacgaag ctcaggaaat agctgaaggc agcaaggtaa acgatgcaac aacctcacag 43740

      caggggttg ttcagttgag tagtgcaact gatagcgaga gtgaaactct tgcctctaca 43800

      ccaaaagctg tgaaaacagt catggatgcc gttgctctaa aggctcctat agatagcccc 43860

10    gcgctatctg gcgcaccaac agctccaact ccggcaatta ctgctgctgg acgtgagatc 43920

      gcgacagccg cgtttgtggc ttcaaaagta gcacaacttg ttggctcagc gcctgaagca 43980

      ctggatacgt taaatgagct ggctgctgcg ttaggcaatg atccaaactt tgctacgact 44040

      attacgaaca tgttggctag aaagcagcct ttggatggaa cactaactgc gctttctggt 44100

      cgttcacctc aaggggtaat tgattatctt ggcttgttga atacggttaa cctggcggct 44160

15    ggctcaattc agaaatccca gaatggggca gatattcctg acaaaagatt atttgtgaaa 44220

      aatataggtg cagttagctc cgccagaatt tcgtttgtta aggaatccgg gtggtataag 44280

      ttagcgacag taacaatgcc tcaaggagct tcaaccgctt taattactct tattggaggt 44340

      gctggataca acgcggggct ttatgaccag gcagcgataa gcgaaatagt gttgcgatca 44400

      gggaactgga atcctgttgg catcacagca acattatggc aacgctcacc agcaggtgct 44460

20    caaggggtgg cgtggataaa tacatcagga gatgtttacg atatttatgt aaacgttgga 44520

      cagtactcta ttgatgttat tgctctgagc gattgtacaa ataatgcaag catagtgttg 44580

      ttcggcacac cagagtatgt ggcgaccaaa cctgcaagtt ccacgaacgg cgcaaattat 44640

      atattgtaca gtagtgttct accaccgcct gagtcatatc cagtaggtgc ccctattccg 44700

      tggccgaacg atgtggcccc gtctggtttc gccatcatgc aagggcagac gtttgacaag 44760

25    agtgtgtatc cgaagctggc ggccgcatac ccatcaggtg tgttacctga catgcgtgga 44820

      tggatgatta agggtaaacc aacttctcgt gcagtgttgt cactggagca agatggaatt 44880
```

```
aagtcacatg cgcacaatgc agccgcttcc agtacagatc ttggtacaaa accaaccaca 44940

acatttgatt acgggacaaa aacgtccagt ggcttcgatt atggaacgaa atcgtctaac 45000

agcactggtg ctcatgcaca ctcgctgtct ggctctacat cgagttcagg tgcccatgcg 45060

catacggtaa ctgctcatac tcagtatcca agatctacag attcgaggaa ccagaatgct 45120

gtcggtaagc aatacaacac acagcagact acagccaatg ctttcaatgt ctggacaagt 45180

agtgcaggtg atcatgccca ctcaatctcc ggtactgctg tcagtgccgg tgctcatgcc 45240

cataccgttg gtattggcgc acatgctcac tcattgagta ttggatcaca ctcgcattca 45300

gtggcaattg gggcgcactc acacactatc actattgccg cttgtggtaa tgcggagaac 45360

accgtgaaaa acattgcata taactacata gtgagactcg catgattata ttagtttttt 45420

cggcacctgt tgcagaaatg gctgatgctt gtacatgtga atttggatat agcgaaaatg 45480

tcgagataat ttacaggtcg ctcgaagcga gcgctgagtt tgactgcatt gtcagtgcta 45540

cgaacagttt ggtcaggtgg atgggagcgc gaatgctgaa tatatcgggc aaggttttta 45600

ccaatagttt gtgaggcttt tggttggcgt gcatcacgtc cgagacatca ggggacaatt 45660

ctaatgcgca ttcttttaaa tctgtatcgt taaaggagtt gacgaaatga ctttcaaaat 45720

gactgataaa gcgagaactc tcaaagtgta caatctgctg gaggggacaa atgaatatat 45780

cggagttgga gatgcctata tcccaccgtt tactgggtta ccggccaact gcactgagat 45840

tgaaccaccg acgactacgg aagggtttgc cgcagttttt gacttcacaa agcaagagtg 45900

gagccttgaa gaagatcatc gtggcaaaac gctttacagc acagaaaccg gtgaaccggt 45960

gttcatcgct gaacttggcc cgttgcccga aaatgtaacc tacatctctc caaacgggga 46020

ataccagaaa tgggatggtt ctgcttgggt taaagacgaa gaagcagaga agactgccct 46080

tgtcggtgaa gccgagcaga ataaatcggt gctgatgaag aacgtcagcc aacaaatttc 46140

cttgcttcaa gatgcgattg atctggatat ggcaactgat gaagaaaagg aaacactggt 46200

tgcgttgaaa aagtaccgtg tcttgcttaa ccgagttgat acttcgttgg ctccagatat 46260

tgactggccg atattgggaa acgaggaaga agattcggca aatttgatta aataaagtag 46320

gtaggtagtt atttatataa tgtgatataa atatgccatc ccgatttgac tattcatcag 46380

ggtgtcaacg acggatgaaa agtgatccac ttatatctcc accaacggcc caatattgat 46440
```

```
        ccaccgtttt actcaggatt agcttctgct ataaccccgg cctttcgttt ctgtctgagt 46500

        cgatagcttt ctcctttgat ttgaacgaca tgtgagtggt gtaagatacg gtccagcatc 46560

        gctgaggtca gtgctgcatc accggcgaac gtttgatccc actgcccgaa cggcagattg 46620

        gatgtcagga tcattgcgct cttttcgtaa cgtttagcga tgacctggaa aacagctttt 46680

   5    gcttcttcct gactgaacgg cagatagcct atttcatcaa tgatgagcag gcggggggcc 46740

        attactccac gctgaagcgt cgttttataa cggccctgac gttgtgccgt agataactga 46800

        agtaacagat ctgctgctgt tgtgaagcga actttgatac ctgcacggac tgcttcatag 46860

        cccatcgcta ttgccagatg ggttttcccc acacctgatg gccccagtaa tacgatattt 46920

        tcattacgtt ctatgaagct gagtgagcgt aacgactgga gttgcttctg cggtgctccg 46980

   10   gtggcgaatg tgaagtcata ctcttcgaac gttttcaccg ccgggaaggc tgccattcgg 47040

        gtatacatcg cctgtttacg ttgatgacgt gccagttttt cttcatgaag cagatgctcc 47100

        aggaagtcca tataactcca ttcctggtct actgcctgtt gtgacagcgc aggcgctgcg 47160

        cttataaggc tttccagttg caactgcccg gcgagcgcca tcagtcgttg atgttgcagt 47220

        tccatcatca cgccactcct ctgcagaatg agtcgtagat ggagagtgga tgatgcaggg 47280

   15   ggtgtttgtc gaagttcacc agattttcat caagatgcac gtcatactct tttttctccg 47340

        gaggcagtgc cagcatggac tgctgctctt cgagccagcg atcgcaggga cgggcctgga 47400

        ttgtttcatg ctttcgttgg ttagcgacat cgtgcagcca gcgcagaccg tggcggttgg 47460

        ctgtttcaac atcgacagtg atccccatcg ggcgcaggcg agtcattagt gggatgtaaa 47520

        aactgttacg ggtgtactgc accatccgtt ccaccttacc tttagtctgt gccctgaagg 47580

   20   ggcgacacag tcggggagag aagcccatct ccttgccgaa ctgccacagc gaaggatgga 47640

        accggtgctg accggtctga tatgcgtcac gttgcagaac cacagttttc atattgtcat 47700

        acaacacttc gcgcggcaca ccaccaaaga agcggaacgc attacgatgg caggtctcca 47760

        gcgtgtcata acgcatattg tcagtgaatt cgatgtacag cattcggctg tatccgagaa 47820

        cagcaacgaa cacgtgaagc ggtgagcgac cattacgcat agtgccccag tcaacctgca 47880

   25   tctgtcgtcc gggttcagtt tcgaaccgaa cggcaggctc ctgctcctga ggaaccgaga 47940

        gagaacgaat gaatgccctg agaatggtca ttccgccacg atatccctgg tctctgatct 48000
```

```
        cgcgagcgat taccgttgcc gggatttttgt aaggatgagc atcggcgatg cgttgacgaa 48060

        tataatcccg gtattcatcc aggagtgaag caacagcagg tcgcggcgta tattttggcg 48120

        gctcagattt tgcctgcaaa taacgtttaa cggtattgcg ggagatcccc agttctctgg 48180

        caatcgcccg gctactcatt ccctgcttgt gcaggatttt aatttccata actgtctcaa 48240

   5    aagtgaccat aaactctcct gaatcaggag agcagactac cccctggatc tgatttcagg 48300

        cgttgggtgt ggatcactat tgcaccgttc gttacagcaa cgagtgattc gacagcagta 48360

        acggccgcgt tcccggtcag ttcgcgcgcc gccagcttct ccagcagctc tactaccttc 48420

        tggtcgctgg gtacggacgt atcgagtggc tcggccactt tgtacttctt cacaccgaat 48480

        cgaatgaatg ggttgagcat tagcgagacc atgctctgct caaattcatc aaggttggcc 48540

  10    agcgcctctt tcttggcgtt ggttcccatc gtttttatgg catccagctt gtgctttagg 48600

        gcgatcagtt tttccattag tgtttaacct ccatcggtcg ctcgggagtt ttcatgtgtt 48660

        ttctttggtt gcttcttcaa tgagtgccgc gtacacgtca gtgacgggcg ccagtgaatc 48720

        ggtggacgtg gttttgggtt tggctggttc tgttttcttc gtgcgtttaa ccagactgtt 48780

        aatcgtcatg gtgttgcgct tccgggtgag cattctggca tggtcgtttt gctcttccac 48840

  15    ttctttgata agcgcagtca tatcgatgaa gtagagctgt tcgcctttgc ggatctcttc 48900

        gaccatcatc ttcagcgcct ggcatttgcc agcagcaatg gccgcagcgc aggacaggaa 48960

        cgatgtagct gggagacgct tctctttgta ggcgaggatg gtgtgctggc agactgtata 49020

        gctgcaatgg gcctcatggc cgttgatctt cacttccgga cagcacagcg aataaccgtt 49080

        gtttccggag atagacggga ttttcgacaa atctgttctt gtggacatgc ttctaaccgt 49140

  20    agtcgtgtac ttacttattg agcgcagttt aaaaaagccc caccaggggg ctaaatggtt 49200

        tatcgaggct taccaggtcg cccagccagt cattttgtcc tgggcggctt cgaaccggta 49260

        tggctccagt aaatcgttgg catggtggac ggcgtaggat tttgcctcct gtttaatcat 49320

        cggcagctcg ttggccaggc gtgccacttg ccctgcaaaa ccggctagca caccgtcaca 49380

        tgcctgaccc gcatcgacaa tgatacgcac caggtctaag tcgctgcggc acatatcgca 49440

  25    gatgatgccg tattccacct cacgaatgcg ctcaacggct tttttggtgt cgccactgac 49500

        caccaattcc agcaaaccag gtggggttgt cagatctgta acgcgctcgg taacttcagg 49560
```

```
      cagttcgaca atgctcagga acgccgcgat tgacgggtca tcctctacac cagccctgcc 49620

      tttgatcgcg cgaagagtcg cgtcgacaat atcctcaaac cgttcacctt catcgcacac 49680

      cgcctgattg gtgtagacaa cgcggccgtc gtaccatgct ccagcacgta cttctaccgt 49740

      tgcatccttc atctcgcgag tgaacgtcac aagtgccgcg cgtttctgtt taacaccagg 49800

5     cagctccgga gactctccaa aacgaaccca gacccgcatg tatttcgacc cttccgaaag 49860

      aggtgcggtg ctcacagacg tggcgatgtg tttcagcgca gtctggatcg cctcaccgat 49920

      aatcttctgg cgctcttctg tatcaatttc tacgcctgat ttgtcgatga tttcggtaac 49980

      ggacttctga atatctgctt tcataaaggt tcctcaattc cttcgtcgcg catattctta 50040

      cagaaaatta agtaagtatc tacttatcga tttaggttca ggaaaatcca tagtccattg 50100

10    cattacaagt tcaaatattg accaaccctg attcgacaag tgctacctta tcggtttata 50160

      tgctatgggg cattgttacg cgtaaatgag tagcctgagc catgtctttt tctataaact 50220

      ccatgataga aaccatctta ccttgctgga ttatgtatgc ctgagaaaat ctttaaagcg 50280

      ccttgcccta catgtagagg gacatgcaat acgttagttc atggtgaaat acaaaaagag 50340

      tggagtaatg cggtagacag ttttaattta tcatatgggc aagatagtca taagcttctg 50400

15    gaatgttgcg ggtgtggcac tgttttttac tataaggact catggggtag tgagcatggt 50460

      gataatgata tttacggaaa attcacccct acacatttta ttgaaacagt ccctgcgcca 50520

      gagcaaccaa aactaaagcc agactggttg tttgaaattt acaaaaaaga tcaaatccta 50580

      tttttattc ttgatgaagt atatacagca tatgaacacg gatcgttcat actcgcctct 50640

      acagggctac gcacggcatt tgatcactca tgcgctcata ttggcatacc taatgcctac 50700

20    acaatggaac aaaaagtcaa agatgttttt gtgaaaggtt atgtgagcga aaccgaacga 50760

      gatcaactca gaattgttat agaagctggt aacgctgccg cacataggg atggagacct 50820

      gacaaatctg cttttgagtc actattacat gttgctgaaa aattcattca gcaagttata 50880

      ctaagagacc ttgagataga aaaaatcggc gaaagatac caaagaagca aagaaaaaa 50940

      ggagactgta aacaatattg tgtaattgcc tgtttttgat atcttcactc caacaacgga 51000

25    gacaggcaaa ttatggacga aaagaaactt aaagcacttg cggctgaact ggctaaaggt 51060

      cttaaaaccg aagccgacct taatgcattt tctcgtatgc taacaaagct taccgtcgaa 51120
```

```
acagcgttaa atgcagagct taccgaacac ctcgggcacg agaaaaatac ccctaaatca 51180

ggctcgaata cccgcaacgg ctattcgtcc aaaacactgc tatgcgacga cggcgaaatc 51240

gagctgaata cgccacgcga ccgcgaaaac acctttgaac cgcagctgat aaagaaaaat 51300

cagacgcgta tcacacagat ggacagccag attttgtccc tgtacgccaa aggcatgacc 51360

acccgcgaaa tcgtcgccac cttcaaagag atgtatgacg ccgatgtgtc tcccacgctg 51420

atatctaaag tcaccgatgc cgtaaaagag caggttgctg aatggcaaaa ccgccaactg 51480

gatgctctgt atcccattgt ttatatggac tgcattgtcg taaaagtccg ccagaacggt 51540

agcgtgataa acaaagcagt gttcctagcg ctgggcatca acactgaagg tcagaaagag 51600

ctgctgggca tgtggctggc agaaaatgaa ggtgcgaagt tctggctaag tgtgctgaca 51660

gagctgaaaa atcgcggtct tcaggacatt ctgattgcct gcgtggatgg cctgaagggg 51720

ttcccggatg cgataaacag tgtttatccg cagactcaca tccagctgtg catcatccat 51780

atggtacgca acagcctgaa atatgtgtca tggaaggact ataaagccgt caccagcggt 51840

ttgaaaatgg tgtatcaggc tccgacagaa gaggcggcgc tgatggcgct ggataagttt 51900

gcggaggcct gggacgacaa atacccgcaa attagcaaaa gttggcgtac gcactgggaa 51960

aatctcaata cattcttcgg ctatccgccc gatatccgca aggctatcta caccacgaat 52020

gccatcgaat cggtgaacag cgtgatccgt gcagccatta aaaagcgcaa agtgttcccg 52080

acagacgact cagtgcggaa ggttgtttat ttggcgatca aggatgcatc aaaaaaatgg 52140

agtatgccga tccagaactg gcggttagcg atgagccgtt ttattatcga gttcggtgac 52200

cgcctgagcg atcaccttta atacggtggc agttacacag aattatggac aggctctgtt 52260

ttttgccaca cgtaaacgtg aaattgaaaa ctatctttgc ccagatctaa taagagatga 52320

gacaggggtt caggtttttt tcacagacac atgcgacgca aaaaaccat aggaagggca 52380

accagcacga aacctaacga cgtactggac aggttctggc ccttaatgac tgccgaaaaa 52440

atcataaaat gctctactta tagagatgat aataatgaca aaattgagct tatagacatt 52500

cttgaaggca ttgtttcatt agtcgattga tcgtgaccta cgttgcatag cggtgtgtca 52560

gttaagcctc tgtgtaacgt tattgtgctc aaaaaatgag cttaacgaat ggaagggact 52620

tcccctgatt atgaacctga ttaactcttg tgcaatcatg ggataaatat cactccggag 52680
```

```
ggattcgtta tgaccatcac tactgtcggt atcgatcttg ctaaaaacgt gttcgctgtt 52740

cactgcgttg atcagaatgg taaaacggtt ctggttaagc ccaaagtatc gcgtgctgca 52800

cttcctgagc tgattgcagg tttacctccc tgtgttatcg ggatggaggc atgctccggg 52860

gcgcactact gggcgaggct gtttcgagag tatggtcatg aaccgcgcct gatggctgca 52920

aagtttgtat cgccttacca catggccggt aaatcaggaa agaatgatgc tgccgatgct 52980

caggctatct gtgaggctgt ccgtcgtccg catatgcggt ttgtgccagt gaaggacgaa 53040

agccagcagg ctatgcagtg tttacatcgt acccgacagg gttttatcga agagaaaaca 53100

gcaacgtata atcgcctgag aggattgatc tctgaatttg gcgtcatcgc cccgcagagt 53160

actgatgcct tacgccgcat ggtttctgag cagaagaatt ctttaccgtt ccaggttcag 53220

caatgtattg atgatttgct ggagcacgtt gatcgcattg aagccaacat tgctgactat 53280

gaccgaattt tgtcccgcat ggccaaaaca gatcaccgca gtcagcgact gatggagctg 53340

aagggagttg gccccacaac ggcctgtgcg ctggtcgcca gtatcggtaa tgcacatgat 53400

tttaagaatg ggcgtcaact ggccgcctgg ctggggctca cgccttcaca gtacagcagc 53460

ggcggaaaat caaagcttgg caggataacg aaagctggcg attcgtatct gcgaacactg 53520

ctggttcagg gggcccgttc agttctgatt ggcgctgata aaaggactga ttctttcagt 53580

cgttgggttt gtacgctggt tgaacgcaga ggatactggc gtgctgttgt tgccatcgcc 53640

gccaaaaacg caaggctgtg ctgggcatca ttgcattacg gtgatgattt ccggctgtac 53700

tcagccagct aaagcactaa gtagtataac catctgacct gcaactcgtt gatgataaag 53760

ggttagaccc cgtgaggcct atctggctat tgtacaggat atacgtatcc gcttaacgaa 53820

caagaacctc acgcgcgtct ttcatcaggg cccgaatcga tgacgattca tcatggccgt 53880

ttatagtacc gcagtctctc ccctttattt ttactgaaga gcagacagaa accttgaata 53940

ccgacgttga catgccgggg aagcccttat agtacaataa ttttcgatat ccaaactgac 54000

cccaacttca agtttgcctt tctgttcacc gagttgaatt cctttctcga tgcccttctc 54060

gatacctttc tgttcaagct gttgtgcgat ggtcatgagt gcgtctccat gctgcggcac 54120

acgctgtgcc agttcgcgaa caaaggcttc ggagtcagca gactcgccgg cctgtaataa 54180

atagtgtatc agcgccatta cctgcggtga agacagataa tctgccatca gcaacgtagc 54240
```

```
       cagtctgtcc gtcagggtgg ctatatcacg ttaagaaggt ttgctctgcc gccagcggca 54300

       ggcctatagg gtcaccacca aagcacgcca gagtgctgaa gtatcgccta acctattgaa 54360

       tcagaatttt aatccactgg gaattaacca ggtgtgggtg agcgatatca cctatcgtgt 54420

       gcccggagtt cagggcgagc atggacgctc aaatgaacca cgagtctgtc tggaatattg 54480

  5    aaccggtaac tcacgatgag aaacccaaca atcctaccgg gtgtgacggt ggagaacctg 54540

       agcggcagtg acctgcggca tgcccgcagg gtgatgtaac ccgctgacaa cggggattga 54600

       ggcgagatca ctaagccgag atgatcctca aggttaagtg ctgaaaggct gaagaacatg 54660

       aacccgttaa tccgcctctg tgggttgaaa atgtcaccac ggcctatgtg atctgacagg 54720

       ccgtgcagaa ggcaccgaca ttgatagata tgcagtgttg gtcgaaagtg ttttgacatg 54780

  10   taagcagaac accgggacag caacgtctat cacgctcgcg ttgctgactt ctgccaactt 54840

       gcggcaagca aggacaaaga gtgcgacggg cagcctcctc agtatgtctg agtccaggca 54900

       ggtgaaccgg ggaaggtcag cgacggatgt taaggggca tggctccgat gacgcgctgg 54960

       ctggcggagc ttccatagta gtccgcgatg gggaaagccc attacatggc gaagggaagc 55020

       agtttaaatg tgtttgcgac gtgaattaac tgacctaatg aggtgaagac ctttgataat 55080

  15   cagcgaaatg caacgcaagc ttgccacatg ggcagccacc gacccgcccc gacgggttga 55140

       acggctgctg cgtctgataa cacaaccaga atggctggct gaagcggcgc ggatcacact 55200

       tgcatcaaag ggggcgcata cccccggcgt tgatggtgtg aacaaaacaa cgctacaggc 55260

       cagactggct gctgagctac aaatactcag ggatgaactt ctctctggtt gttaccaacc 55320

       tctgccagcc agacgggttt atatccccaa aagcaacggc aaacagcgac cgctgggtat 55380

  20   ccccacgctg cgggatcgta ttgttcagcg ggccatgctg atggcgatgg agcctatatg 55440

       ggagagtgat tttcatactc tgtcatatgg cttccggcct gaacgcagcg tccatcatgc 55500

       gatcagctca ccgattgtgg ggaaacacga gggcgctggg taattgaagg cgacctgtcg 55560

       tttaacttga ccagaacagt ccagtatggt cgttattaga aagtccactt cgctaagaag 55620

       acttggggcg catggcacat gcgtaaaata tctcggacgc tacctaaaac gaccaccgat 55680

  25   gtcggcgtca aaactgcgac gaaacagaga tgataaccat catgattatt agcatgatgg 55740

       tttatgtgat ttatgactga ttattactta ctagtgtatt ctagtcatca atttgggctt 55800
```

```
        aattttggaa atgcatgtgg gctagaatat ttccacaatg gttcccagta agatttcatt 55860

        aattcattaa ctgcatcttt tccttcgact aaatagtcaa actctgacag ataaccggga 55920

        taaagattat ctgatccaac aacgtacaac tcatcgtcaa taatcattaa tttggcgtga 55980

        ttaccaggtg caacagggac tttaggatag aaaagtccac tacctttaat tgctgacatt 56040

   5    agtgcactac caataatacc ttgatgcggg ggttttccg aaagtggttt ttgcttaagt 56100

        gttgcagtat aagcgctttg ttctaaatca ggccacttgt aggtttcgcc ttcaattgta 56160

        ttttcatcag gtactttatc tgtaaagaag aatggtgcaa tcaatattct ttttaaggca 56220

        tcagcacggc taccatcagg atcgtctaat acttcatcgg tatcaatatc atgggttagg 56280

        taatacttaa ataattcata ggtccgttct gctccagaac caaatgagta ctgatcacca 56340

  10    gcagctccag ctgctgcatc tagagcagag actacaacat gaatatgaag atctttattt 56400

        tctaacaaag cctcaataat ccaattacac gtaaagtggt ctttccattt tttttttccaa 56460

        gcactcacga gatcttgctg tgaaattcta attatgcgct tagcattttt tatcagttgc 56520

        tctttcatta tttcagaccc tctttggtag tcatgctcca tattaggtcc tgtccaatat 56580

        ttacctactg ataaaactct gtctgctttt ttatactctt ccatgttttc gtattcacta 56640

  15    atacgagtcg ctaccttctg attaaagttt tcatgcaagt tgagtaggtc ctcttgccgt 56700

        tgcttcatat aattcatagc aactgagctt ttaagcggat cttcaggctt atcatagaac 56760

        tttgttccga ccgcccacat catgctttca taatcaaaat attctttttt tagtaaatct 56820

        gaattacatg accatagttc gttaagatat agctgggagc cataagcaga agaaccatga 56880

        gtgataattg atacatcatg aacaggtgga taatttctaa atagatccat gttcatgtta 56940

  20    tgtccaccaa caagagcttc agtaccatct gaggccatta ttttgtgtg attccatgtc 57000

        attcttgtat cgttgattgg tgggaaatca ggatacacgt ttctcataaa tgatgtagcc 57060

        aaccttctt ctattctaaa gaaacggcct agccaaattt caggcatttt ttcccaatat 57120

        tgtcctcgct ccttaattag ctgaattaac tctgatttaa aagcaacaaa gtcaggggag 57180

        ccatttgttg cagcagataa cccattcata aatactgttg gagattggcc gaaaagaaac 57240

  25    ctatactgag ttggctgagt tcgccccatt tttttcgata aggattcatc aatggcctta 57300

        aaaatcactt ttcgccactc tgcatcgggg ctattaagtg atgatatatc acagcgataa 57360
```

```
cgcgaattcc gcagtacttc agtcattgcc cctgcaaact cctcttgccg taagtaagat 57420

tgctgcatga tttctttacc aaatggggct ccccaagcat ggggggtatc cagaagtcgt 57480

atataattaa tgttacttag atgatgaaag tagtttccaa tattattaat gacattatct 57540

atttgaagca tattttatcc tttgtttatc gatgtgttaa taaatatcgc cgttgcagca 57600

attaatagcg gggagatagc ggggtacttt acgcccatag tcggttaaac tcaacctgat 57660

attttcccgc tatttcaggc gcaccacgta tgacgagaac attttctgca ttgtgagtat 57720

cgccattggt ggtgtaattc attgaccctg tttgtatcgt gtcaccatca gctatcatca 57780

ccttgttatg atgaattgaa tagttgttat ttaaccttac cggaacatgt tgttgtgcca 57840

gatagtgaat ggctgaatag ttcagacggt tagctttggc atcagcaaca actcggacgt 57900

taacccctcg cttttgagcc gagacaatgg ctgtcgagat ctgcttactt gtaaaagtat 57960

aggcttcaac atcgagcgag gattgagcat tattgaccac gcttaataca ttctctaatg 58020

cagtgtgaga aggagagaat ccaacattaa aggacggggt tgcgagcgcc gaagcgctga 58080

ccagtacaaa aatgatgact gagagtttaa atctcatgag ttatgtccaa agtttgtagt 58140

tcatccatta tgtaaaaccg aaaaaaaacg cctatgtttg gcttgctgta tcgagctttg 58200

gcttttatgc ttcgctcggt ttccattgtg gcgatccgtc ggccgttcgg taaggtaatc 58260

agcccatcag gacggtgctt gaccttaaac tgatttaaaa agtattacgg tcacttttaa 58320

tctaattttt agccccttct tgggcgaata tcaagtgaaa acgctgttgc gataaggtct 58380

gctaaaaaac aggcttaccg tacatttttt gaatattaaa cataatgtag gctgcatcac 58440

catataagtc cacatacata gtaatggtat gcgatgccta cattttgtga ctaactttgc 58500

ataatcatat aagttttata taaaagggtt tgaggttcag tagaacggtt ttacatctta 58560

atatttgta tgataaatca tagtgttata gataacaaaa aacaggtgca tagggggcgtt 58620

tttttagggg tctgaagcta agtcaaacga aaactcacgt taggcgagaa aggtcgtctg 58680

aaaaatcgat taatggacag cgatgtccgt taaatgctat ttaccgatta aaaagacacc 58740

gttttaggcg cattttcac tgtctataat gttttgattt atcggacaaa aagcccttaa 58800

cgtgtgaaac cgttccgttg agcgtcaaac ccctattaac gtggaggacg tatcaatgtc 58860

gcgtcgtggt ttacgtttat cacagctgcc accggtacgt tcggaaaagc caaaaccggc 58920
```

```
caaaacgtcc gcgcagctca tggcggaaga tacgctgcgt gagttaattg ccgcccgctt 58980

tgccgtggga aaaccggtta tccacattca tgcaaactgg aatgatgcgc tactactgcg 59040

ggtattgaaa gaagcgatac accaagctaa aggcccgccg tttgtggtgg taccaccgca 59100

tctaaatgaa catgagaaag agaacgacta gcgagcgcta gtcgtttaaa tgattagtgg 59160

cggatttgcg ccaaatcgtc ttcagaaagg ccggttgctt cttggaccga ctcaatcggc 59220

atgcccattt ttaacaaact gcgtgccact tcgagtttgc ctttctctat gccacgttgt 59280

tcaccgagtt gaattccttc agtacggcct tccatacgac cttttttctat gcccttctgt 59340

tcaagctgtt gtgcgatggt cataagtgcg tctccgtgtt gcggcacacg ctgtgccagt 59400

tcgcgaacaa aggcttccga gtcggctgac tcgcctgcct gtaataaata gtgtatcagc 59460

gccatcacct gcggtgaaga gagataatct gccatcagca acgtcgccag tctgtccgtc 59520

agggtagcaa tatcacgttg atgaatatgc ttttgcagca gcgtcagtgc cgccatgctg 59580

cggtgctcca taatatcatc gtctggaata accgtcacat caaccagtgg aaatgcaccg 59640

ctatagagtt tatgtgccaa ctcagggtcg tcaaactcat ctaaccaccg cgtggagtac 59700

ggataaggac tgcgtttacc cacgtaaaag agcaccggta tcaccagcgg cagcttagca 59760

tggcccgctt caaggtggcg ttgcatggca gcgatcgcgt aacgaattaa gcgaaaagcc 59820

atatgcttat cgggtgagct ttgatgctcg atcaacacat ggacgtagcc ctcgccttcc 59880

acggtatcga ggctgtaaag cacatcgctg aagtactgac gcaaatcatc ttcaacaaag 59940

gagcctgact ccagctttag cgtgctgagg tcgcagatag cgcgtagctc agcgggtaga 60000

tgcaactcca taaagtcacg tgcaatctcg ggctgggtga gaaactgcct aaatgtggca 60060

tcatggggtg tgggggtact gttttctttc ttcatcagct cagactctga aaaatgatga 60120

gtgaatgcta tcacaatcaa agcaatacaa gatgttaagt ttacccctca gcttgctggc 60180

agacgcggat caccgtcatt ttggataccc ctgcgagacg ggctgtttca cgcaatgact 60240

taccatgcaa taggcgtagc gttcggatga gctcgtgttt ttgtgcatca gccaccctgc 60300

cccgatattt accttccgct ttcgctttgc tgatcccttc cgcctgacgg cgacgtcgat 60360

cctcataatc ttttctggat atagccgcga gcatatccag catcatgcca ttaacagctt 60420

tgagcatgct gcgagtgaat tcatcgctaa cggcgttatt gagcgccaaa tgactggttg 60480
```

```
gtaaatcaag actcacgata gacagctgct tatccgttat ctgctttctt agcgcttccc 60540

atcctacgtc gtccaatcga gaaagcctat ccacttgctc aatgagaata atatccccag 60600

gctcagcctc ttccaaaagt tgcacgagtt ttggacgtgt catcgttgcg ccagagatat 60660

tgtcgacata ccagcctgca attcggtggc catgtaggcg agcaaaattc ttcagtgcat 60720

tttttgcgcg agtggcatct tgttcagagg ttgatgctcg cagataacca aaaatgagca 60780

ttttttagcc ttgaggtaac gtttaagtag tcattttgtt aatggtatca cttatgtggt 60840

cacattgata tggaatacca tgttttaatg cggtatctca gaagtatacc cgaatgtgac 60900

aggctgacgc gcccgtaggg cttatccaac ccttcgcctc agatgcaagc tctgaacaga 60960

ctcacggttt tcgtttctgg tcaaattcta attaggcgtt taaagagaag gttttgtata 61020

tcctgcctgt gggatagtat tgcgtgtgct gttattacat tatcctccac tgagtacaat 61080

actctgtagc cgtcaggggt gttgcactca cgatatttag cacaacctat cttgagtaac 61140

tccgggcaga cctgacaccc aagtggaaaa tcactgactc gttttttcgaa gtgctcaatg 61200

atgccgctga tcacttcctt tggttctgac tcgatatgac gtaagtggct cgcaatatca 61260

tcaatgcagg ttttgacagt tctggtgtac tgaataacaa tcgccattac agacccgcca 61320

gtagttgttc tttactgaaa atattgccgt ctgccttatc ttgctctgaa agcgtcagca 61380

acttcagtag tgcaatcgcg ttctgtcgct cctgttgcgc gtcgtatgac tcaataacat 61440

atgccggaac cccatttgga gtaacaagaa ttggttcttc cagatcgagt gacgctgcgt 61500

ttttttttcac atagctaatg gtttcaattt tcataacaac ctcacataac aaagaggttt 61560

aaatatagtc tatatttggt cttgttgcaa caatttctgg acagaatgac ctgaatgtcc 61620

tagctgtgta gtgattactt gttaccacca taccctccac cccctcgcct gctcagaaac 61680

gatgtctaac tgcgcggttt gatgtgaatg atggttggat acgtacaata atttaatgac 61740

aatacaaaat atgttgtaca ttttttgtgt gtatgtacaa tgtgattgaa ctttataggc 61800

aatatatggg cagggaatct atctcagggg aaactatgaa acgagattac ggtagtgtcg 61860

gtaccatagc gctcagagca agtgctctac ttcaggcaat gagtcgggat attgaggaac 61920

aaagaaaaga attcaatctg acagaatatc atcaaacata tactcgtaat gcggtcgcaa 61980

aattgcctaa gctgagccga cgcatcgtag agctggccgt taaagaaatg gaagaaagcg 62040
```

```
      gctatgaatt taataaaaag caggttggca acgtcgagca atatgcacta acaattcaga 62100

      acgttattga tatatatgct caccgacaga tacctaagta ccgtgatatt cataaagcac 62160

      cttacgtaat ttttgtcgtc aacctaaaag gtggggtatc aaaaacagtc agtacagtaa 62220

      cgctggcaca tgcattacgt gtacatcagg atttgcttcg ccatgatctt cgtattttgg 62280

5     ttatagacct cgacccgcag gcatccagca ccatgtttct ggatcacacc cacagcatcg 62340

      gcacagtcct tgaaaccgcc gctcaggcaa tgctgaatga tctggatgct gaaacgttgc 62400

      gagaagcggt tatacggccg actattattc caggtgttga tgttatacct gcttctattg 62460

      atgatggttt cgtggcgagc cagtgggagt ctctggtagc agaacattta cctggtctta 62520

      aaccttctga agttctcaga aaaacaatca ttgaccgtat cgctggtgat tatgattttg 62580

10    tctttattga tactggccct catcttgatc cattccttct gaatggctta gctgcgagtg 62640

      atttgctttt gacccctacc cctccggcac aggttgattt ccattcaacc cttaagtatc 62700

      tgactcgttt gccagaaatg cttgagcgtc ttgaagaaga aggtgtagag ccacgcctga 62760

      gtgcaagtat tggatttatg tcaaaaatga ccagtaagcg cgatcacgaa acgtcccata 62820

      gtctggctcg tgaggtgtat gcgagtaaca tcctagactc atcgctcccg aggttggacg 62880

15    gattcgaacg atgtggtgag tcttttgaca ccatcattag tgctaaccct gtttcgtacc 62940

      cgggaagtgc agaggcattg aaaaaggcac gtactgaagc tgaacggttt actaaggccg 63000

      tatttgaccg aattgaatat atcaggggag cgtcaaaatg aaacaggtta tagctcgtgg 63060

      tcgggttctg ggaaatagta attcagagtt cgctagaatg ctcgaaggcg acggtgatgt 63120

      taaaacattt acccttaaat caggcgtgca ggctaggttt gtcaaaacag ttgtgttaag 63180

20    cggagaagtt gaatcaaaaa cgttcgttga tgcttcggtt aatggacgtg atcagacaat 63240

      gcttacgcgc gagtccgtca gtgatatttc ccggacgata aagctgcagc agttctttcc 63300

      ggctattggt cgggaggtta atggactaat tgagatatta gatggaaccc gacgtcgtgc 63360

      tgcctgcatc tttaataacg ttaaattcga aattctggta acaaagatg atatctcact 63420

      cgccgatgca cggcagttgg cgaaagatat ccagactgcc agagaacata gtcttcgcga 63480

25    gctggggaag cgactcgaag ttacctacgg aaccagcatg acgaagaag atattgcgtt 63540

      gaaagaaaat ctctctccgg cgaaagtgac acgtgcgttt caggccgcag cagtgccaga 63600
```

```
cgaaatggtt gcagtgttcc cggtgataaa tgatatttcg ttgtcagatt atcagttttt 63660

actgaaactg gccgaagaag caaacaacaa gcaaacatcg gtaacagagc tgatggaaaa 63720

agttcagcat cggttgaaga ccatgccaga ttatccggca attgataaaa gcaaaattct 63780

tgcggttatc cggtcggaga gcaaattgct gacagccctc ccaactagaa cggttcaaac 63840

agagaagctg agagaatttt cagatcgtaa tcagtttgcc agaaagaaaa ctgatccaaa 63900

gaagcgactt gttgtttatg agttttcccg tatttccgct gaggcacagt cggagattga 63960

taaggcaata aaacgtattc tggaaagact tccagaatca ggtgagtaag ggataaggat 64020

gccgaagagc atcctttttt gtatgttttt caccacgcca atttcatggt tatttgtttg 64080

attataaagg aaaattgaaa attctttcac actgaaatca ccacgctttt caacctcttc 64140

gtgactcata atttcgctat tggcagttca gaccagcgag ttgtataggc aggcgaaagc 64200

atctcccgtt ttatatgcca ttcagacgct accccttcca gcaaaccaca cttttcccag 64260

acatgaatat ccatgtatct catctgttcc aacttatgta atttactttc tccatttaca 64320

ctgcgttgcc atgcactcgc tttcaggaaa tcagtataat agcccctaaa tcatcttctc 64380

ggagtgaatg gacatggcta ttgcaggttg cgatttacca acttttgcca cccggctcaa 64440

tgaagtgctt actctcagtg tgccagtgcg tacacctgaa aagctttttg ggcgggataa 64500

gcagttggag acgatacaac tggcacttca ttcaccgggc cgacatgtgt tcatttatgg 64560

cgatcgcgga gtaggtaaaa cctccctcgc ccacacagcc gcttcgctta tccagtcttc 64620

ggataaccgt cctattaccg tcagttgtga ccatgactcg accctggaaa cagtcatcga 64680

atcggttatt agccaaggaa tgatgcgcat gccggtagac cggtacaaaa cgtctgcaac 64740

ttttggtctc aatattcctg tttttaaaagc cgaagcccgt gttgaagagc gtgaaacttc 64800

tcgcgttcgt tcagtcgtta atatggccag tgctgttgaa gccctgaact atctgacgga 64860

acgctattcg gataacacgg ttattgttat tgatgaattt gacctgatcc gtagcgagga 64920

gcagcgtgcc cgctttggtg ttttgctcaa gcagttaagc gatggggatg tacccgttcg 64980

tatcatcttc accgggattg ggcagtcggt atctgatttg attggcggac atctgtccag 65040

tcagagacag attgagcagg ttgatcttga acgtctgcac tggacaggtc gtcagcgtat 65100

cgttgaaagt gcatttagat attttgatat taatatccct gatgatatcg cagaccgtat 65160
```

atgcgcgttg agtgatggat ttccctacta tgtccatctc atgtgcagca agctccttca 65220

tgagtgttac atggcagatg aagtcgttag cacagttaca cgtgatctat ttctagcttc 65280

gctcgatgca gctgtattgt ctgctgagga aacgctcaga tcatgttatg aggcagctac 65340

ctgccgagat gagcatatgc atcacattct ttgggcgatg gctgaaggtg cagacctcaa 65400

cagaatgaaa gaccacatca ttacctccta tatccaggtg atgaagtacc tcgacattga 65460

acctctgacg cagaaaaact tcgacagtcg ttttgctcgg cttcgtaaag agaatcacgg 65520

atctattctg tgccatgcgc ttgtcgggaa ggatggtgtc cggccaggat ggtttcggtt 65580

cagggaaaac atgatcagag gctttgtcag aatgcaggca gagaagtgcg gaatagttct 65640

ggattttgat cggcagtata gcgcccatac agcaagtacc agaacagctg cagttagagg 65700

ggtatacaat cccctcagca cggtggaacg cagcgtagct cgcctcagac gtgatgatga 65760

aaaggaagct gaagaaacg aataacgtat ttgtaaatga atggaatacc cgcgaattat 65820

atatgcaata ctcgggtatt cagcgtttgc atcatgtcga gttacccgta cagcggagtc 65880

ttgctcttct cctgtctctt gatcaggcaa ttactcaatt ttcgaggcta acatcttaat 65940

gctgttttag tgtcggggga tgctgctaac atcttcttca ggctgtgggg cacgaccagg 66000

cgcattgaac gtgatagtga tgatctttct ggccagcccc tcctctgaaa gggcatcatc 66060

cacactgaca tcacgaatca gtggactttc ctcttctata tgtcgggcaa tatcccgcag 66120

ccactctgcc agcatttctc tgtccatctt tctccgctcc ggttgtgtac attcagcatc 66180

aacataccac accagaaaaa gtgaagtctg cgtagtgtgg ttaaaagatg accgttttgt 66240

caggcgcgct gtcatccgtg ctggtagcga cctgcgcgga ataccctcat tttatacaca 66300

ggattgccca ccgaaattgt ggacagcaac gatgaaaata cgatgtcgct gcgctcctca 66360

ttcatatcgc tctgctgtga acgccgtgcc gctactgtag ccgggccgct gcgaatgcaa 66420

gggttcgctc tgccggtgtc ctcacccggt cgcagtttat ttcaaaggct ttacccgctg 66480

tcttcccgtc gttttccgtc tcaattttcg ccgtcaaacc gtccagccag cgtgggcttt 66540

ttcactgcgc tgcggcttgc ggcaccgccc ctgcattctc cgcttttcgc ccggctgtcg 66600

tatcggcacg gcgtaactgg cgccgcattt gagaaaggag aactaccatg tcccgattta 66660

tccagggtaa ttgcgtccat atcatgtccg gctttccgga taatgctgtc gatttcattc 66720

```
tcaccgaccc gccatatctc gtcggttttc gtgaccgtca ggggcgtacc atcgccggcg 66780

ataaaaccga tgaatggctg caacccgcct gccatgagat gtatcgcgtg ctgaaaaaag 66840

acgcgctgat ggtgagcttc tacggctgga accgcgtcga tcgctttatg gccgcctgga 66900

aaaatgcggg attcagcgtt gtcggccacc tggtgtttac caaaacctac acatcgaagg 66960

ccgcatatgt gggctatcgc cacgaatgcg cctacatcct tgcaaaaggc cgtccgcccc 67020

tgccgcaaaa cccgttgaat gacgtaattg cgtggaaata ttcaggcaac cggcaccacc 67080

cgaccgaaaa acccgtaacc agcctgcaac cgctgattga gtccttcaca catcccggcg 67140

cgattgtgct cgaccccttt gccggcagtg gctccacctg cgtggccgcc ctccaggctg 67200

gccgtcgtta catcggtatt gaattgcttg agcagtatca ccgggccgga cagcagcgtc 67260

tggccgccgt ccggcgcgcc atgcagtacc cggccgctaa cgacgagttc ccggaggccg 67320

cgtaatgaac tatgcaggac acgaaaaact ccgcgcagaa gtggcggaag tagccaacag 67380

catgtgtgac ctgcgggcga cgctgaacgg gatggagcac cgctatcgct ttgactctga 67440

tgtgctggtc gaacgcctga cccgtcagac ccttttttcgc atcaatgccc tgtttatggc 67500

ggcatacaac gaaatgcttg agctggatgc ctgctttaag gactaaggag aaaaacatgt 67560

acggaacctg tgaaaccctc tgccgcttgt tgcgtgagca gtatcccgca gaaaccccgc 67620

tgaacctcat tgtctggtcc ccggcggata tcgaagcact ggccgacgga atggaatatg 67680

ccgtttcgga acaggacaca agggcggtac tggcgcgtat ggacgccata ccggaagaac 67740

aacagcttga gtcgggcgtg tctgccggtg cagtgatgga tctgattgaa caggtgaaag 67800

aggcagttcc ggcggtgatg gtgccggcgg atctgcttga aaccctgcta accactgccg 67860

aacaggcgtt atggcacagg gaatggaccg cccgtgacag caatcatccg gtcccggaaa 67920

gcgttacccg ccgcctggct gatgcggcga aagttcgcgc attactgaaa aaatgaaatc 67980

aacacgccgc ccgggcggcg tgtactgacc ccgttcagag gaacccatta tgcaggaaac 68040

caccacgtta aacgcccttg tgatgcgccg tgcgcgcgat ttgattgctg attatggatg 68100

gcctgaccat accgatgttg atcagcgtga tccggtcaat aaaccgggat ggataagcat 68160

ttatgtccgt ctggatgcgg caaatattgt tcatctgctt cctttacttt gtagcggtga 68220

catacccgca gagctgcaaa atgccatgac aaaaatagcc gggacgtcag cgcagattat 68280
```

```
        tttatccggc agccgctatg ccgacgcgcc gcagcttccg gaggacggaa cacagatagc 68340

        gttcccctgg gccggggaat ggctgacgga gccggagatt caggctgtaa cggattgcct 68400

        gtcccgcgcc gtgcgggatg tatcccggca ggtatgggag gatgcgcgcc ggataaaggc 68460

        ggcgctgacc acgcgcgggg aaacgctgtt ttatcgtcag acccgaaatt tccgtctggt 68520

  5     tgtgaaggaa aatgatatgc cctgctggct ggacgatgat gacaatttgc cggtggtgct 68580

        cgatgccatc ctgaacaaag gggcacgcta cagcagcgtc gagttctttg ttatcagcga 68640

        caaagttgat caaatcctgg catgtggcca gatgtgcgat gtgctgcgta ttccgggcga 68700

        gcctccgcgc cggtggatgg atttaaccct gttacatgag gtcatggcag aagcgcgtgc 68760

        agaaatcagt cttgtccgca atgccctgtc agcaatccgg ccagtgtagc gaacagcagg 68820

  10    gggcggcggc cccctgaatc taccacgaag gatgtcgccg gctccgcttt tacggctctt 68880

        cctccacgtt gttccggctt cgcggtgagt aacgtcccga gcggtctgcg gcttacgccg 68940

        tgcctctact ctagcccgaa cgctgcaaat gcaagggttc actgacgtcg atgctttcac 69000

        ccggtcgccg tatgtttaaa tgcctgtcgc ggttcttccc gtcgttatct cgctcaatat 69060

        tcgctcgcta accgtccaga ccctctccgc tatttaccgg cgctgcggct tcatgcatcg 69120

  15    cccctgcatt tttcgctccc tgtcgggctg tcgtgtcggc acggcgtaag ccgtaactca 69180

        gacaacatcg actatggagg atttttttatg cgcactacga ccaccacacc ggctgtttat 69240

        gtgggtacgt atcacaaata caactgcggc agcatttttg gcaaatggtt tgaactgacg 69300

        gagtttgacg gcagggagga tttttacgag gcctgccagg cgctgcacgc cgatgaatgg 69360

        gacgcagaat ttatgttcca ggaccaggaa ggtatcccgt cgcagttcgt ctctgaaagc 69420

  20    gccattgact gggattttat cgccgcttac aaacgcgccg aagaagaggg cagggaagcc 69480

        gcttttatcg cctgggcgga gtataccggc gagtgtgact atgacgcgtt tgatgatgca 69540

        taccgcggcg aggcggaaag tgaggaagac tatgcgcagg agatggttga cgataacggc 69600

        ctgttaaatg aggtgccgga ccgctgcgc agctacttcg attttgaggc gtatgcccgg 69660

        gatttgttca gcagcggcta tgtgttccat gacggttatg tcttcggtaa ctgattttcc 69720

  25    ccggcaggcg gtttagccgc ctgtcagccc gcgcgcaaaa ccctggcagg ctctgcctgc 69780

        cggcgaagta cgccgcgcct gcggcgccgc gtatctccgc cagtgcctga tgtcccggtg 69840
```

```
gtgtcagggt atgaataccg gtttgttgca gcgggtcggt gttatttctg ttccggtgtt 69900

aatacctgcg ctgccgtagg caatagtggc cataccggtg gcgtactggc tgatatcgct 69960

gtcctgtcgg cttttcttcc cgggcgatat gactgtgggc gacttccta gcgggaaccg 70020

gcgctgtcgt aaacggagcc ggtaaaccgt ctccgccctg tcgggcttcc atcgcactgt 70080

cgcaggttca acatcacgct tgcggcatcc gtaaacggat gcgccgctct caccagcccg 70140

gcggtaatgc tgccgggctt cttcggggca acgccgtttc gcgcccgcgc gttccgtcgt 70200

tgcagcgggt tcctgctcat tttctcctgg tcatttcacc cttttgagtc ctttcgccgg 70260

ggctgagaca agcacagccg ctgtcagctg tccagggtaa atggcacgcg gtaaaccgcg 70320

ccctggacat ccgccatcgc ccgcgctggt ttacgcccct gcggcgaacg gctctcaaac 70380

gggtgatggt ttttaaaagc aaaacaggtt cagaaggagg agcaacatga gcgaggcgct 70440

ggcggtttta cccgacgaca cctttacccg cgaacaggct gaggtcgttg cggcgcagta 70500

caccaacgtg gcaattgagg acgatcaggg ggcgcatttt cgcctggttg tccgtcagaa 70560

cggtgaaatg gtctggcgca cgtggaactt tgagccgggc ggcacgtact ggctcaaccg 70620

ttatatcgcg gactacggta tccgcaagcc gcagtaagaa agaggtgccc tgccggagcg 70680

cgaactccgc agggccagac aatcatcaat atccagtgag gtatcaacta tgtcagtaac 70740

cgatgttaaa gcaaaagccc ccaaaaaagc gagcagcaaa aaaatcacga aggcgcagga 70800

agaagctctg aaagccgccc ttgaggccgc tgtcatcgag tatgttccgc tgtccagtct 70860

cgctaaatcc ccgctgaacg tgcgcactat cccgtattcc gtggacagcg ttcgcggtct 70920

ggctgactcc atcgaggcgc tcggactgct gcagaacctg attgttcaca ccctcgcgga 70980

cggacaatcc ggcgtggccg caggtggtcg ccgactgact gccctgaatc tgctggcgca 71040

ggaagatcgt cttgcggctg atcataccgt catggtgaag cgagtctcag acgacattgc 71100

ggccctcgcc tcggttgccg agaacgagca gcgcgccgcc atgcatcccg ccgagcaaat 71160

cgcaggtttc cgtacgctgg cagagcaggg caaaactccc gcacagattg cgacgccct 71220

cggcttcggc tcccgccacg tgcagcgcat gctgaagctg gcaaacctcg ccccgtccct 71280

gatggagaag ctcgcgcagg acgaactgac cgttgagcag tgtcaggcgc tctgtctcga 71340

ggacgatcct gcccgtcagg tcgaggtatt cgaaaacgtg aaggccagct ggtcgaacgc 71400
```

```
gcccgcacac ctgattaaac gcgctattac cgaaaccgag atgcgcaccg acaacgccaa 71460

atttcgtttt atcgggcgcg atgcctacga ggcagcaggg ggttacgtcc gtgaagatct 71520

gttcagccag gacgagggcg acggcacggc agacagcgtg ctggttgagc gtctggtgca 71580

ggagaagctg gagcgtatcg cgcaggacat tcagcagcgg gagggctggg catggagtcg 71640

cggacgcgca gcccgcatct ggtaccacgg cgaagacggt aaggagttcg tgcagcctgt 71700

tgaacccgat ccggtgtaca cccctgagca gcagcagcgt cttgatgcgc tgcgggagca 71760

gtacgataca tatgacagcg tttgcgacga gtcagatgcg atcgaagcgg acatcctcgc 71820

cattcaggag gcggcagaag ccagcgcgtg gactgacgac atgaagtcag gcgcgggagt 71880

gatggtcagc ctgtacgaag ggcaggtgta cgtgcagcgc ggtgtgcgcc tgaaagcgga 71940

tatgccggaa gaaaccgtaa ccagcagcgt aacggtgcca ttcacctcac gccagcccga 72000

cgccgcagag gggatcagcg ttccgctgct cactaaaatg acctccgagc gtacgctggc 72060

agtacaggcg gcgctgatgc agcagcccga aaaagcggtg gcgctgatgg tctggcgcat 72120

gtgtacctgc gtcttctcgg gctgtctgac cacgacgcac ccgttccgta tcagtctgac 72180

cgtgtcccac ggcagcctga cggagaacgc cccgtccggt aaggatggcg cagcgtttga 72240

gatgctcatg accgaacggg caaggctgaa agccctgctg ccggaagggt gggagaagga 72300

cttcaccacc ttctttgccc ttgacggcgg ggtgttgatg tcgctgatgg ccttctgcac 72360

ggcctgttcc gtggacgggg tacagacccg cgatatgggg cacacctccc gaagtccact 72420

cgatacggtc gaggcggcaa tcggattcca cctgcgcgac tggtggcagc cgacgaagga 72480

caactatttc ggtagcctga aacatccgca gattgtggcc tccctgaaag aggcggggct 72540

gacgggcgcg gcgggtgacg cggagaagat gaagaagggc gatgcagcag cgcatgcgga 72600

gcactttatg cagcacaccc gctgggttcc ggcatggctg aaaggaccag agccagcggc 72660

tgaatccggt gctgacgacg cggtttccga taccgacagc actgacaacg acaccaccaa 72720

cacggcacac gccgcctgat aacggagagc cgcccttgtg tgaacagggc ggcaattgta 72780

acgaacggtg caatagtgat ccacacccaa cgcctgaaat cagatccagg gggtaatctg 72840

ctctcctgat tcaggagagt ttatggtcac ttttgagaca gttatggaaa ttaaaatcct 72900

gcacaagcag ggaatgagta gccgggcgat tgccagagaa ctggggatct cccgcaatac 72960
```

```
         cgttaaacgt tatttgcagg caaaatctga gccgccaaaa tatacgccgc gacctgctgt  73020

         tgcttcactc ctggatgaat accgggatta tattcgtcaa cgcatcgccg atgctcatcc  73080

         ttacaaaatc ccggcaacgg taatcgctcg cgagatcaga gaccagggat atcgtggcgg  73140

         aatgaccatt ctcagggcat tcattcgttc tctctcggtt cctcaggagc aggagcctgc  73200

    5    cgttcggttc gaaactgaac ccggacgaca gatgcaggtt gactggggca ctatgcgtaa  73260

         tggtcgctca ccgcttcacg tgttcgttgc tgttctcgga tacagccgaa tgctgtacat  73320

         cgaattcact gacaatatgc gttatgacac gctggagacc tgccatcgta atgcgttccg  73380

         cttctttggt ggtgtgccgc gcgaagtgtt gtatgacaat atgaaaactg tggttctgca  73440

         acgtgacgca tatcagaccg gtcagcaccg gttccatcct tcgctgtggc agttcggcaa  73500

    10   ggagatgggc ttctctcccc gactgtgtcg ccccttcagg gcacagacta aaggtaaggt  73560

         ggaacggatg gtgcagtaca cccgtaacag tttttacatc ccactaatga ctcgcctgcg  73620

         cccgatgggg atcactgtcg atgttgaaac agccaaccgc cacggtctgc gctggctgca  73680

         cgatgtcgct aaccaacgaa agcatgaaac aatccaggcc cgtccctgcg atcgctggct  73740

         cgaagagcag cagtccatgc tggcactgcc tccggagaaa aaagagtatg acgtgcatct  73800

    15   tgatgaaaat ctggtgaact tcgacaaaca ccccctgcat catccactct ccatctacga  73860

         ctcattctgc agaggagtgg cgtgatgatg gaactgcaac atcaacgact gatggcgctc  73920

         gccgggcagt tgcaactgga aagccttata agcgcagcgc ctgcgctgtc acaacaggca  73980

         gtagaccagg aatggagtta tatggacttc ctggagcatc tgcttcatga agaaaaactg  74040

         gcacgtcatc aacgtaaaca ggcgatgtat acccgaatgg cagccttccc ggcggtgaaa  74100

    20   acgttcgaag agtatgactt cacattcgcc accggagcac cgcagaagca actccagtcg  74160

         ttacgctcac tcagcttcat agaacgtaat gaaaatatcg tattactggg gccatcaggt  74220

         gtggggaaaa cccatctggc aatagcgatg ggctatgaag cagtccgtgc aggtatcaaa  74280

         gttcgcttca caacagcagc agatctgtta cttcagttat ctacggcaca acgtcagggc  74340

         cgttataaaa cgacgcttca gcgtggagta atggcccccc gcctgctcat cattgatgaa  74400

    25   ataggctatc tgccgttcag tcaggaagaa gcaaagctgt tcttccaggt catcgctaaa  74460

         cgttacgaaa agagcgcaat gatcctgaca tccaatctgc cgttcgggca gtgggatcaa  74520
```

```
acgttcgccg gtgatgcagc actgacctca gcgatgctgg accgtatctt acaccactca 74580

catgtcgttc aaatcaaagg agaaagctat cgactcagac agaaacgaaa ggccggggtt 74640

atagcagaag ctaatcctga gtaaaacggt ggatcaatat tgggccgttg gtggagatat 74700

aagtggatca cttttcatcc gtcgttgaca gttgcctcaa tgtgcgctga cgggcaggac 74760

gtgtttcgtc gcttcctact gaaagatccg aaagccggtg tcggtatcag tctatgcaac 74820

aaggtgttcg aaaacccaat tccgaagttt gaggtacagc tggcgtctcc gtacaaggag 74880

aaaggcgaca aatacccatt taaaccaaac ccaaaggcca agtggccaat gatcggcagc 74940

ctcaaactcg atggtctccg ggttatctgc gaagtcatcg tggatgagga agaggtgaac 75000

ttcctgacgc gcaccggcaa tccgattacg tcactcgatc accttaaacc ggccatgctg 75060

gagcgtggcc ggctctccgg tttcaagcac atcttcttcg atggtgaggg tactgcaggt 75120

acgttcaacc agtccgtgtc ggcgcttcgc aagaagaacg tgaaagccat tggtgccgtt 75180

taccacatct tcgatttctt cttaccagag tggcgtgctc aggcaaaaag caaagagtac 75240

ctgaagaccg gtatgaagct gaaagagcgc ctggctatgc tggtgtcatt gttccgcaac 75300

acttgcgggg aagattacgc gcaagatatc cacctgcatc cgttctacat catccatagc 75360

catgaagact ttatcgaacg cttcatgaag cgcctggatg agaatgaaga ggggggagatg 75420

ggcaaagatc cggattctgt ttacgagttc aagcgtaccc gcagctggtg gaagctgaaa 75480

gacgaggatt ccgaagacgg tgaaatcatc gacttcgagc caggcgaccc ggactctggc 75540

tttgcgcata cgctaggcaa gatagtgatt cgtctggaga acggcgtcat cgttcgtgcc 75600

agcggtatca aacataagta cctggatgag atctggaaca atcaggagaa atatcgtgga 75660

cgcatcgtcg aggttcactg ccatgagaaa acgccagacg gtagcttacg tcaccctcgt 75720

ctgaagtggc cgaaatgtct gcgtgatacc gaagatcgta ttggagataa agactgatgt 75780

tcggctggat gattgtattt ttggttgtcg gcattgttat cggcagtctg gttatgtcca 75840

gctgcatcaa cgattacgta aaagccggtg tcatgcagag gcgcggccgc atttaccgca 75900

ttgtagatat cacgtacaca ctgaaggaga ttaaggatga tcatgttaag taaacgggag 75960

aaggaaaccc tgcgtgaaat cagccagtgg aaggagttct acgctaactg gaagccaaag 76020

acccgcgcca aactggaacg catgaatctt gtcgctaacg tttcgccaaa gggatgcttg 76080
```

```
          gagaactatc aactcactga aaaaggacac tcactgttgc agcaattgac tgaggctggt 76140

          gcgttccaat gattccatac atcacattat cttttgctgg gggcgtggcc ctcggcttca 76200

          gtatctgtcg cgatctggtc aggcaggaac tgaaaaccaa aacgcttcgc atcggtaagc 76260

          gtctgtatcg ggttgttcac gagacaggag tgcagaaatg agcaatttga cctctttcga 76320

   5      ctggtggctg gcaacctacc ttgtggcggc cggcttcgga tatgcctttt acgttggtca 76380

          gttaatcgtg aagctattgc tgatcagatt tgccagccat aaacgcatag atgacggtct 76440

          gtggcgcctg ggttctctgc tggagactca ctacggcgaa ctcaaggaga acgaaactat 76500

          cactattcaa gcgaagcgtt ttaccgccat catcacgaga acgccggaac agaaggtgag 76560

          tttgatcaaa aagatagcaa ctgaacgagt cacagacaaa taagtattta cttacttatc 76620

   10     tattatgtat aagattcatt tgttttcgtt gggacgcgac tgtttgaacg ttaaatataa 76680

          ctgcaaacga agatacgtac ctggcagtag cctaagaagc caaacaccag cgaggtcagt 76740

          ttccagcctc gtcaccgaaa tgggacacac tgagcgagtg tgattgcaga acgcaggata 76800

          gggcatgttg caccacccat gccctattcg atgaagtaac aggatgggcg gttggtttcc 76860

          tcattccatt ccatcatccc ggtttcagcc agctgaccgt ccatcctgtt acgtcatttc 76920

   15     cattacttat gtcgtttaat cttgggttaa aagcggcgac gtaacccggc tggctcggtt 76980

          agccagcgca caacgttgag gtcactgttt tttctttaa tcatacaggt gattccacag 77040

          aactgtagtg actgatcaat atgttgggtc gaacataaat cggttcagtg gcctcaacgc 77100

          tgtgaaatcc aaaataatta actctttggt aatcctaatg ttactgacat ttccggcttc 77160

          acaatattat tgtgatatac ctgcatttca ttgtaaaact ccatgtcatc acaataaatc 77220

   20     gggagaaaat aatgacaatc aatagtattg tcatttcgtc tttttatgac ctccacatcg 77280

          taaccatccc gcttatttaa attataaata ggcaaagagt tataatatat gttgtacatg 77340

          tgatgaacat actgatcata tgtatcattg aagaaaaaat aagcatacag gcctttatct 77400

          acctttattt cactatcgct gaaatgctta ttcctatccc aaacaaccgt tcttgcaata 77460

          atgtcattcg ttttatcatg aaggggatt ctgtttgata ctgttatagc tgtattttc 77520

   25     ttcaacgaat catataactt acccaatcta cattttgaat ctatcccaga gtagaacact 77580

          aaatccctaa aattaaagca ttgaccaatt atatttctct ctttaaggta acagattcgt 77640
```

```
ggttgaaggt attcacagtt aatttccctt ctacccaaca aacctttaaa ggaccaaaaa 77700

gggatcatcc tatactgccg tggggtataa ccaaatattt tcttaaattc tctggtgaat 77760

gtctgttgcg aatcataaaa aagctttgct gatatctcta ttattgtcag cctggtaagc 77820

cgtaatagtg cagcagctct actagccctt ctaactctaa tatatgttcc aataggcatt 77880
```

```
ccgacatatt ccttaaagga aatttgcaaa taccttctgc tgaatcctga atacaaaacc 77940

aaacagtcaa tgttaatgaa tttcgactcg agattctctt ctatatattg aataattgaa 78000

tttacagtca tctgtttttag catgaatata acccaaatca aaataatagc attctagata 78060

gtgggccggc gccgggactt agctatttgc gcatacccag caacaccaat cttagctatt 78120

tgtgcacgcg catcaatatc aaaattagct atttgcgcaa caagcaagtg gagtgcgcga 78180
```

```
aaagctaaac tttgtgtgca tttttaaata aaattgttct cagtgaggct gtgctacgga 78240

tataaaaatc cccttcattt gttacccacc tttttacgca tatcgtcgat atgaaatgat 78300

ggggaggggg tgggaaggtg ttgtcaccat tccgtaagga ggttaagctc atgattttaa 78360

atagattaag tacgttagga attattactt tcggcatgct tagttttgct gcgaactctg 78420

ctcaaccaga tatcaaattc gcaagcaaag agtatggcgt gactataggt gagagtagga 78480
```

```
tcatataccc gttagatgct gctggcgtta tggtctcggt gaaaaacacc caagattatc 78540

cggttctcat tcagtctagg atctacgacg agaataaaga aaaagaatca gaggatcctt 78600

tcgtggtcac tccgccattg tttcgattgg atgctaagca acaaaattct ttgcgtatag 78660

ctcaggctgg aggtgttttc ccgcgagata aagagagcct aaagtggtta tgcgtaaaag 78720

ggattccacc aaaggatgaa gatatatggg ttgatgatgc gacaaataag caaaaattca 78780
```

```
atccagacaa agatgtggga gtgttcgtgc aattcgcaat taataattgc attaagcttt 78840

tggttcgacc gaatgaatta aaaggaaccc ctatacagtt tgctgaaaac ttaagctgga 78900

aagttgatgg ggggaagcta attgctgaaa acccctcacc tttctacatg aacataggtg 78960

aattaacatt tggagggaaa agtattcctt ctcactatat tccacctaaa tcgacgtggg 79020

cttttgattt gccaaaagga ctagcgggag cacgtaatgt ttcgtggaga ataattaatg 79080
```

```
atcagggagg gttggatcgt ttgtattcca aaaatgtgac tttatgatga tgtttaaagg 79140

ggacgggaat aatgaggtat tcaaagctgt tcctgtgtgc agggttaact ttggcaacat 79200
```

```
tgccttgttg gggacgcgca tatacttttg actctactat gcttgatacg aatagtggag 79260

agagtataga tgtatctctt tttaatcaag gacttcaact tccaggtaat tattttgtta 79320

atgtttttgt aaatggtcga aaggtagact ctggaaatat cgacttccgt ctagaaaaac 79380

ataatggaaa agaacttctt tggccatgcc tatcatcctt acaattgaca aagtatggca 79440

ttgatataga taaatatcct gatttaataa aatctggtac agagcaatgt gttgatttat 79500

tagcaatacc acattcagat gtgcagtttt attttaatca gcagaaatta tcgttaattg 79560

tgccaccaca ggcactttta cctagatttg atggcattat gccaatgcaa ttgtgggatg 79620

acggcattcc tgctctgttc atgaattata atacgaacat gcagacaaga aaattcagag 79680

aaggaggcaa gtctctggac tcttattatg ctcagttgca accgggatta aacatagggg 79740

cttggcgctt tcgtagttca acctcatggt ggaaacaaca aggatggcag cgttcgtata 79800

tttatgccga gcgaggattg aatacaatta agagccgttt gacattgggg gaaacctatt 79860

ctgatagcag tatctttgac agtatcccga ttaaggggat aaaaattgct tcagatgaat 79920

cgatggttcc ttattaccaa tggaattttg ctccagttgt tcgcggtatc gcacgtacac 79980

aagccagggt agaggtttta agagatggct acactgtaag taatgagttg gtgccctcgg 80040

gaccatttga gttagcaaat cttcctctgg gtgggggag tggtgagctg aaagtcatca 80100

ttcatgaaag tgatggaaca aagcaagttt ttacagttcc atatgacaca ccagcagtgg 80160

cattacggaa gggctatttc gaatattcaa tgatggggg agaatatcgt ccagctaatg 80220

atcttacaca aacatcgtat gttggcgctc ttgggatgaa atatggtttg ccaaggaatc 80280

ttacgttata tggtggacta caagggtccc aaaattatca tgccgcagct ctgggtatcg 80340

gtgctatgtt gggtgatttt ggtgccatat ctacagatgt tactcaagca gacagccaga 80400

aaaataaaca aaaaaaagaa agcggccaac gttggcgcgt tcgatataat aagtacttgc 80460

agagtggaac atcgttaaac attgctagcg aggaatacgc cacagaagga tttaacaaac 80520

tcgctgacac gttaaatact tattgtaaac ctaatactag aaacgattgc cgttttgatt 80580

atgctaaacc caaaaacaaa gtgcaattca atttaagtca aagcatacct ggttcggga 80640

cgcttaattt cagtggctac agaaaaaact attggcgtga cagtaggagc acaacttctt 80700

tttctgtagg ctataaccat tttttttagga atggtatgtc attgactttta aatttatcga 80760
```

```
       agacacagaa tatcaataag tatggagaaa aaactagtga gctattatct aatatctggt 80820

       tgagttttcc tctcagtcgc tggctaggta ataactcaat aaattcaaat taccaaatga 80880

       catcagattc tcatggtaac actacccatg aggtaggtgt gtacggtgaa gcctttgatc 80940

       gccaattata ctgggacgtt cgcgaacgtt ttaatgaaaa gggcagaaaa tatacctcca 81000

 5     atgcactgaa tttgaattat cgaggaactt atggggagat cagtggtaac tacagctacg 81060

       atcaaaccca aagccaactt ggtataggtg taaatggcaa tatggtaata actcagtacg 81120

       gtataacggc tggccaaaaa actggagata ctattgcatt agtacaagcc cctgatataa 81180

       gcggtgcttc agtgggatac tggccaggca tgaaaacaga ctttaggggg tacaccaatt 81240

       atggttactt aaccccttac agagagaata aggtagaaat taacccagtt actttaccca 81300

 10    atgatgcaga gataacaaat aatattgtta gcgtgatccc gacaaaggga gctgtagtat 81360

       tagcaaaatt taacgcaagg attggtggac gattgttttt acatttaaaa cgctctgaca 81420

       ataaacctgt tccatttggt tctatagtta ccattgaagg gcaatcatcc agctctggca 81480

       ttgtcggaga taatagcggt gtctatttga ctggactacc taaaaaatca aaaatacttg 81540

       ttaagtgggg gagagataaa aatcaatcat gttcatctaa tgtagttcta ccagaaaaaa 81600

 15    cggatatttc tggtgcttat aggttatcca caacctgcat cttaaataac tgaaacggat 81660

       gtttatttca aacaggacac aagccctctc tacgaatttg ttcgtggatt ggattattcg 81720

       atagaggtaa tatatgaaaa aaatcagttc cgttatcgcc attgcattat ttggaactat 81780

       tgcaactgct aatgcggcag atttaactgc aagcaccact gcaacggcaa ctcttgttga 81840

       accagcccgc atcactctta catataagga aggcgctcca attacaatta tggacaatgg 81900

 20    aaacatcgat acagaattac ttgttggtac gcttactctt ggcggctata aaacaggaac 81960

       cactagcaca tctgttaact ttacagatgc cgcgggtgat cccatgtact aacatttac 82020

       ttctcaggat ggaaataacc accaattcac tacaaaagtg attggcaagg attctagaga 82080

       ttttgatatc tctcctaagg taaacggtga gaaccttgtg ggggatgacg tcgtcttggc 82140

       tacgggcagc caggatttct ttgttcgctc aattggttcc aaaggcggta aacttgcagc 82200

 25    aggtaaatac actgatgctg taaccgtaac cgtatctaac caataatcca tatagataat 82260

       agataaagga gggctattat gccctccttt aatatttatg aattatccta ctttgagcct 82320
```

```
       aaccctcgct tttcttaatc acggcattga tagcaagact gacaaattta tgtgaagatc 82380

       aatgttagga actaatgcag aaagccacgc cctcaataga tttcacataa tacactatta 82440

       gctaagaata gagagcgcga agcaatataa taggctcata tttataactc tcaccttaat 82500

       atgcacttgc aataccattg agtatattat ctggtgggaa ttttttctc ctaagcgagg 82560

5      atatggtgtt ccaaaagcga tttcaacata tccgcctaac tgcgggaaga attattgttt 82620

       taggtgtggc aattattta atggaaatct tgttgttagg gattttgttt tttattagcg 82680

       aaataatccg aaatttataa tcaccctccc ttttgcgtca tttctttcag gcgccctcac 82740

       cctcttgagg agagcaagag gggtatccat catccatgca acttcaacaa agcagccttt 82800

       gccctcaccc cggggttttt ttatttggta gcaacccacg tcctgcagcc ctcaaaacct 82860

10     tcatagccgg taaaaatgat tccataccta ttaagtatgg aatcattgta caaaacaggc 82920

       tattttatgg ttgatcatac aaaaacttat gcctaatata ctgttcatgc atacagttaa 82980

       aagggcttca ctcagtgagt ggacgatgaa aaacaccttt gataaagcac gcgcagcaga 83040

       aaatacctct cgggaagcca tcgagtacct cgaacgcgct tccggtttgt cggcagtgtc 83100

       gaccgccaat ttcgacggag acatgtcgtt ttcttccgcc ttcatgttgt tcacccgctt 83160

15     atccttactg ataacgagac gtcgacctga aattgccgtt cattgtgttt tgatacatgt 83220

       gatgccgcat atctctgaag taaaggtaag tgatataagt agggtcttgg tcaaccagct 83280

       ggtgaaccca ctgatactgg aaggcaagat cgtccagggc agacgcgtgt tctccctgat 83340

       gaaacagttc ctgagctggt gtgcctttca gggattgatt gatacttcac ctttgaatga 83400

       tatgtcgctc aacaaagttg ccggtggcgc aaagccagta ccgcgcgaac gtaagctgac 83460

20     cgacgctgaa gtctgggtat tctggaatat ctgggattat ttcaacgtat gtgaaggtac 83520

       aaagtgggcg gcaaggctat gtcttgttgc tgccaggcgt ccagatgaag tgctccgggc 83580

       cagaaaggat gagttcaacc ttcaacgtga tgtatggaat caaggtacgc gaaacaaatc 83640

       ggccagacag cacgcgctgc cgctaagtcc attaatgcgc aaatgcgtgg aagagttgtt 83700

       cgaatacgga aagggcagcc agtggcttgt tccgtcaaat aagaagaagg gcgttgatac 83760

25     accaatgtcg aaggtggcca ttgcacaagc gttgagaaga attctggagc gcccagagct 83820

       gatggatttg gaacctttca caccacgaga cctgagacgt accgctcgta gttattttcc 83880
```

```
agccctgggg atcaatcaag aagtggctcg taaaataatg aatcacagtt tggaaggcat 83940

agatcgcgtg tacgaccggc acgactatat ggatgagatg cgagacgcct tggatagatt 84000

ctcagcgtac atcgcatcca tcgtagagca acaagattta gacgaaattg accacaaatt 84060

taagggagat cgtctagcaa ctgagcttat tcgtgtaaat ttctcatagt ttcttgattg 84120

cttcaacaac ctgatctgat gcgccgcgtt gatcaccgaa acggttgcga aacgcttcta 84180

atactctttt ttcgtctgcg gaaaggggag ccgttccttc ttcgcggaag aactcaagca 84240

actccgggtg acgctcttcc aggaccatca gcattagccg aacagggtca gcgtccagag 84300

ctacggccag cgctcttacc ttatcaacgg ggagagggat ctttccgctt ttgatgagag 84360

acaggttgtt ggcgttttta taccctactt ccttggcaat agtagcctga cttttcggtg 84420

agatagtgat cagggaatca atataagccg cgtagcgacc ttgtttgcta tctgtttcgt 84480

tggtagccat gtaataacct tgcgtgttta atttgtctct ggtaagtgct tactgatatt 84540

acattaaagg tgagggttgt aaagacttat ctatttcttt cgataggcat caaaaccctt 84600

tacctatgcg cattatacat ctattaagcg gcaaattgtc attatcagct tgcatggttt 84660

gtcagacaaa tctgatatag atgtattccg tattgataca ataggtagta gtatttccga 84720

actttcgaac gtgttgagtt ggatgatatg agatgaaaaa tataacttct aatttgaacg 84780

cccttgaggt tggacatgca tatgcgctcg ggatggatgg cgtggcaacg atacttacag 84840

aacttaatac tgaagaactt ccgatagaca tgagcgacac gactgtcttc actttcgaac 84900

tcagcaacaa acatttcact ctcatcaata ctggctgcgg ctcacttgcc gtaagaaccc 84960

attaactgca aatcctacct attgaaacct gtacgaacag cttggccacc tgttcgtaca 85020

gcataaaatt acacacatta gaaaacaaat tgtttaaata acaaggaaat tctcatgtcc 85080

aaagccatga ccagagctgt gctgaaagag gtacaggact ccgcgactg cgtaaaacga 85140

gttgtagcga tgctttcagg caaacagata cctgttgcag aacgaggcaa tgaagcgtat 85200

gtccgctaca accggcgcgg cgaaccagtg ctggtaaaca tcccatctat accggacgac 85260

gcatcaccaa ccctcatgaa cgcagtacgt ggttttctcg accatgaagt agcccatatc 85320

ctctttactg atccgaaagt cgcgatgaag atgcgcgaga gaggaaaggc tccgtctacc 85380

gggctttgga acgcgctgga agacgttttt attgaacgca gaatgggaca ggtattcaac 85440
```

```
ggaacccgtc gtaatttgct agccacacag aacctggtga tcgacaaata cttcaagggc 85500

aaagtgtcag aggcggtttc aatctgccac ggcaaccagc gtgaattgtt cctgaaattc 85560

ttcctttgcc cggtcgtccg cgcctgggat ggccaaagcc ctttcatcga ctttatggaa 85620

gaacactggc acctcatcga taagcctgta gccttgctca aagagcatgg tatcgacgtg 85680

gccgttcgca atatgtcgaa cacagaggac tgcgtaaagg tcgcagctgc tatcgcccaa 85740

atcatgcagg atatgaaaga caagccagag ggcaaattac ctgagcttaa atcatctgcc 85800

aaaaagccgt ctaagagcaa agacgagtcc gaggaaacac cagagtcagg cgacgatccg 85860

tctcatagtg aatctgcacc aaagcgaacc aaaggcgaag acgacgacaa ggaagagcaa 85920

gaagatgatg cctcagaaga ggaagattct ggggattctg atttgcctga ttcattagat 85980

aaggacttac ctatacatga taaagaaatt agtgatacag aaagtaaata tacagaagca 86040

ggcgaagatg agtcaggaga caccccagaa tccgatgatg ccggcatgga atcaggtgat 86100

tctgacgacg aaggtggtag tgatggcact ggcgctccaa cgcctggtga tggcattcgc 86160

gaagacgccg atgactccga tggttatggc tctggcgccg ctggcgatgg ggatagtgat 86220

aacggcgaag actccgatgc cggtcgtgag gagtccgaag agaagacga aggcgaagag 86280

gacgtcgccg atcacactga cggcgaaggc aaggaaaatg aggatgccgc ggaagcgcct 86340

gaagacagtg agtcaggctt tgttcctgcg ccggatgaaa tgactctgga ggacgcactc 86400

aaggcgctcg acgagatgga agaaggaaca gacgaaatga ccgaagacgc actgtcggcc 86460

accatcagca aagagcttat gagcgcctca ctttctgagt atcgcccata cgatcgttca 86520

tacgacttta tcgggttgat tgatgaggct gaagagcatg taaaacgcac cagaaagaca 86580

ttcggcgcaa tcccaatgca ctcacctgtc gatcgctacc gcatggttcc ggaaggcaga 86640

aaactctttg aactgaaaat cgaaaaacat ctgtctgccg gcgtttcttc gactctggcc 86700

aaagacctgg agcgagctat cgccagccgc aaccgagttc agttcatacc gggtcagaga 86760

cgtgggcgga tacatggcgc gaacctgtat cgtctggcaa tgaacgacga ccgcgtgttc 86820

cgcaagaaag aagaccacag agcggtgaac gcgtgcgtcc agcaggtgat cgacttgtcc 86880

ggctcaatgg gcggcaggaa gattcaactg gcactcgcca gcgcctacac cattgcggat 86940

gctctggatc gtatcaatgt gcctaacatc atcaccggct ttacaacgtt tggtagccca 87000
```

gattatgaaa ccatgtcgaa gcgcgggttt acacgtttcg aggcgctcat gctgcccatt 87060

atcaaaaact ggaatgagaa agctaactca ccagagatcc gcgcccgcat gggctgcgta 87120

tgtgagacgt tccccctgct caataacgtc gatggtgaga gcgtcgcgca gctggccact 87180

ctgtttgcag ggcgaatgga ggacaaaaaa atcatgctgg ttatgagcga cggggcacca 87240

tgtgctgcag gcgatgggtt ccatgagcat ttgcgaaccg tcaccaaaga aattgagacg 87300

ttaagtgaca tcgatttgat ggctatcggt gttctgactg acgcaccacg acgctactac 87360

aaaaattacg cactggttaa cagcgtagaa gagttagggc cgtcagtcgt cactgagcta 87420

tctcgtatca ttcttgggta agaacttcac ccttaaaaaa taagtaatta cttactatac 87480

agtctaatat atttatataa gatatacccc acgaacgaca aacagtaagg aaaaacacat 87540

gaccgctact gcactacagc aagaagaaca tttgccggaa gccatcgtct gcaagtggtg 87600

tggcaaatct tttcattacc tgaaatccca tatctctatg ggccgttgcg agaacattcc 87660

tgagtccgcg aagggtctgg acgtggacga agtggtgaaa atgtacacct ctgcgtttcc 87720

agatgaacca acgatctctc gcacggcact ggtcaaactc aatgagaagc gtgccgaaag 87780

acattcagga gaaggaaaag tagcggagat tagcgcacat ccgggctacg caggaacggt 87840

cgaatacaag accgaactgg tggccgcgca cgagctgctt ggcgtaacga tcaaagagct 87900

gggaacgcca cgcggaaaac cactacaggt gacggttaac gtcaacacac cctatccgga 87960

gttcgtgcct gaagcgaaga agaactatgt gtatggcgac tttgacctga ttaaagacat 88020

cttcatgatg ctggaaatcg gaatcccagg ctatctctgg ggtcatgcag gaaccggtaa 88080

atcttctctt cctacgcagc tatgcgccct gctgaatcga ccactgatcc gcgcccagca 88140

tacggcgtct atggaagaag cacacgttac aggccagatc ctcgctcgcg atggctccac 88200

ctacttcgag ccgggtttgc tggcgctggc gatgaaaaat ggctgggtgt acctagctga 88260

tgaatatgac ttcgcgttcc cgcagattct gggtgtgtac cagccagttc ttgaaggaga 88320

accgctgatc atcaaagagg caactccgga ctggcgccgt atcactccgc ataaacgctt 88380

tgccttcatt ggcactggca acactaacgg ctctggcgac gaaacgggtc tctatcaagg 88440

tacgaacatc cagaacgcgg cgaacttctc gcgcttcggc attgtttcga acgtgaagta 88500

catgagcact aaggctgaag tcaacatgct ggctgaggct ggcgtcatcc gcgaatacgc 88560

cgagaagatg gtgaaattcg cgaaccttgt ccgtgaaggt tatgagcagc atctgatcag 88620

ccagccaatc ggtcctcgcg agctgctgct atccgcaaaa atcggaatga tgcgcggtga 88680

tttctctgcc ggcatcgaaa agtcatttat caataaactt ccatccacgt ctgcacaggc 88740

agcgcgtgaa gtggttcaga agatcttcgg ttaatcgtgc gtaaaggatg tttcggctct 88800

cttatcgcag cgtctgaaac tggccgggct tgtctggcgt gtccggatag gtccgagtgc 88860

caccagtcag ccaaagaggt tgcgatttcg atgtatggga agttcgttgg cttccccaat 88920

gacaaaatca agaaaaccag aaaggtaaaa acacatgaag gctctgatgg tcagaactga 88980

cttctccctg ggagagtcag ctctaaaagc agaaacgcg gtgaaaatcg cgagagacgc 89040

tggctacact gctgtcattt ccgctgacag catgaacatt gccagtgtga ttcccctgca 89100

gcgtgccgct ggcgacgata tggcggttat ttgtggtgtt aagctgaatg tggtcgacga 89160

tccgacatac gagcaccgcg cccgccttgc gaaagaatca gagagatgta tggaatcatt 89220

ggtgcgtgat cgcagctact gcttcacggc actgataaag aatgagcaag gttatcgcga 89280

cgtgtgcgaa ctgatgacct tagcgaacaa gcgcgagcaa ttctactttg tcccgcgtct 89340

ggcgctcgac caactggcgg ccgcgtatgc caaaggcaac atcatcctgc tgacgtccga 89400

cattggcagt gtattccagc gccgggactt cgcaaagatt atcgggacgc tggtcacagc 89460

tggaggacgc gataacttct acagcgtggt ttatccgcac cctaccccat tctacgacca 89520

gattaacgtc cgggcgatga aagtagcgag cgcactgaaa atagagccag tggcgttcta 89580

tcccgcttat tacgaagcgg tcgacgacgc tgacattaaa gacattgcgc acatggttac 89640

gaacaacatc aaaatcgacc agccgcatcg tctgcgtatt ccccaccagc gagataacgc 89700

cgttaatggt cgccgccatc tccttgaagc gctgaaagcc ttctccgttc gcatggatgt 89760

accggtaaca gctgcaatgg cctcaacaac gcaggacacc attatcgaag cctgcacatg 89820

gcgctggcat gaattgccac cagcactgcc caagatggca gacgacgagc ctgcaacgct 89880

gatgaagctg gctgtcgcgg ggctgcgcaa gcgtcttact accaaagagt ttggctacac 89940

accaccggct tctgagcacc gcgtgtatgt tgatcgtctg aagtacgaaa tggacacgct 90000

gacccgtctg ggcttctgtg gctacttcct gatggtgcgc gacctgatga atcacagccg 90060

tgaaactggc attcctgtcg ggccaggtcg tggttcctct gccggttctc tggtggcgtg 90120

```
gtgcatcggc ataaccaacg tcgatcctat ccgtcacggt cttctgtttg agcgtttcat 90180

caaccctgaa cgtctcgact taccggatgc ggatctggac ttcagccagg cacgtcgcca 90240

tgaggtgatc gagtatctga atgaacgcta tggcgaagat tacgttgccg gtattccgaa 90300

cttcacctat ctgggcgcgg cttctgcgct gcgtgacacc gcacgtattt acggtgtcga 90360

tgctgcggat atggcggtat ccaaagagtt caagaatctg gaggacgata gcctgtcgct 90420

ggaagagctg cgcgagcaac tggccagcct ggacaaatac gccacgaaat acccggaagc 90480

gttcaaagcg gcgtgtaagc tgcaaagcct gatgcgtggt tttggtcgcc acgctgcggg 90540

gatgatcgtc gctggcgttc cactggtaga gcgcacgccc gtcgagctgc gtggcaatgc 90600

tcgctgtatt gcattcgata aacgttactg cgaggcgatg gggctgatta agctggacgt 90660

tctcggtctg gcaacgctcg atctgttgga tagcgcgaaa cgctacatca aagagagtac 90720

cggggaagac atcaatctcg atgctatccc actggacgat cgtaaggttc tggatgggtt 90780

cgctgcaggg tacacgcagg gcgtattcca gctggagtcc ggtcccatgc gcaagctgct 90840

taaagatctg ggcggtggca tcgagccaat gagcttcaaa accgttgtcg ccacgaccgc 90900

actcttccga cctggcccga ttcaatccgg catgttggac gactatgtct ccgtggccaa 90960

aggcttcatg gctccacagt cgctgcaccc ggtactggac gagcttaccg cggaaaccaa 91020

cggcgtgatt ctgtatcagg aacagacgat gaacgcgaca cgattgctgg ccggtttcac 91080

gatggccgaa gcagatggtg tacgtaaagc gatcggtaaa aaggatatgg aaaagatgaa 91140

gagcatgggc gagaagttcg tcgttcaggc tcaagctggt tggatcgacg ttgagatgga 91200

agacggcacc acgcagcgta ttcaccgcgc ggaacacttc aaatgtgagg acggcgcact 91260

gcggacggtc gaagaagcgc tggaggcagg tgtgaaattg ccgatggctg ctgtacgcgt 91320

tacagggtca caaccgggct tgtctgagac gaaagctaag gagatctggg atgccttcga 91380

gaagaacggt gcgtatcagt tcaacaaatc acatcccgtt gcctactcgc tgatcagcta 91440

tcagtctatg tggttaaaga cacattaccc tgctgagttt ttcgctgctg cgctcaccat 91500

tctgggcgag ataagcacc aggggctggt taaggatgcg ctgacctatg gcattcacgt 91560

attgccacca gacgttaacg tgtcatctaa ccgaattgag atccgcacgc tggaagacgg 91620

cagccaggtt ctgtatgcgc cattctctgc tgtaaaaggc tgctctgaga atggttgcca 91680
```

```
ggccatcatg agagcgcgtg agaaagttgg cggcaaattc gagtcacttg agcaatttga 91740

ggaagcggtc gagaagcgtg cgtgtgcgtg taacagccgg gtacgcgagt cactgcaaaa 91800

agtaggtgcg ttcgcatcga ttgagcctgg cagtctgcca gcgacagatc cggaacggct 91860

gcgcgaccag gctgaattga tgggcaatct ggtgatcgac gctgtaaaag cctctcgacc 91920

gttcgagatg aaccctaaac gctctgccga agtgaatgta ctgatgacac gcatggcggc 91980

tgaaatgggt ctgggagacg acctgatacg cccaagcatt ggcattaagc cgaaaatcat 92040

ggtcattctg dacaacgcga acggcaatga tgggcgtact ggctacttca tggagaacgg 92100

ctacgacgac tttaaggcga agttgcttac tgcaggcgat ttgcgcatgg gagatctcta 92160

cgtcaccggc gtgtgcaaaa aggtgaagga caaagagaag gactacacca aagacgagat 92220

aggccagttc accgacttta tgcgtgaaga gatcaatctg gtgcgtccga cctatgtgct 92280

gacgtgtggc agccgggcga cgtcactctt caacaacaag agcaaaccat ccgacctggt 92340

tggacgcaaa gagtatctgc cagagctgga tgtgaccgtt ttctacggat ttaacccgaa 92400

cattttgtac tttcgcccag aggaaggcga aaagctggaa gcaattctgg cagaggtagc 92460

ggagacaatt agcaaatgaa taaagagaac accatgaacg aagcacagaa gattgcacaa 92520

gcgctggcgg ctatcccagc ggattttcag gataaagcag ttgcagccac catgcggtcg 92580

cagttctggg aaatcatcga ctgcccggtc acgttagatc tggcgctggc gttcgccggg 92640

ctggatggtg ccgataaagt cagtcgtctg cgtaaatgtg ccagagcgct ggcgcttaaa 92700

acgcaagatc cgaaggcgtg ccagtatctg ctggagattt acgaatcgga taacccagag 92760

gaacagctgg aggcgttcaa agtgttccgc aatcggctgg tgctgaaggt ggccaaagag 92820

tttatggaag tgaacaagat tggcgatgtg agacagtaca ggctgaaacg ccagaccaga 92880

gtcacgctat ccaacatttt tggtaagaaa gtcgcataaa gcaaaaaccc gccaatcggc 92940

gggttttttc atgcgcattc ggcgtgatga cgtcgacgtg cgataagtga agaagcgata 93000

tgttcaatct caacaaagtc ttttgagacg ctattgcgaa gggccaaatt ccacttactt 93060

aatacgcgag cattgtgtgc cagctctgcg ttttctttaa ggcgtccatt ggcttcaagc 93120

cagttcgcca catcagccca atcccatagc ggggactgtc cctggattct ctggataggg 93180

caagggaagt cgccaccacc acgaagccca tctttaagca tggtaattgc ttgtcgggac 93240
```

```
atgcccgtca tttcagctac atcgctcagg ccaactaagg ccgagtcgac tgattctaca 93300

atcgcgccga taccggcaga ttcgatattg tcgaccgctg atgcaatggc tgcatccagc 93360

gatttggctt cgcggtcgaa ctcaacatag acggagtttc catatgcgca aacaatcgca 93420

tcgccacagc cgctttcgta cagcgcatct tccaatcctt cggtctcata ggttacgcct 93480

gagagagtca gagtgaagtt ataaagcgcc ataaaacctc tttatctaaa gtgaagtatt 93540

aatgtacctt tggaacaaat ggcggccaaa accgccacta actactattt tttgctcatc 93600

tggttttttga tgcgaccaca ctggtcgacc gcttgcctga tttgcgtggc atggtgctcc 93660

ggtacatctg gagtcgacca tacacttctg tggtgacttg tatgttcacc tgatttatcg 93720

ccgcagcgca gcttgcagaa gcaatgtgct gacttacctg ctggaaccca aacccagcct 93780

ttactcaacg cgtattcaat ggcctcttga atatgcttat tcggatgtga tttcattttc 93840

ctccgatgtc attatgatag gtatagtgtg agcgcgtgtc aacactgtct attttctgac 93900

gtctacggcc gcagaaaacg gctatagatt atcagaacac tccctgtttt catcaactta 93960

ccgacccccac ccctaactt cttccttcta taagctccat ccttcatttc tttcatggta 94020

aaattgatat atagaaataa gctggaacat atcaaaatga gtgcagatat ctacgaaaaa 94080

atcatgtccg atctggagtt cgaccgcgac aatcttgagg aagtctggcg tcagcaaccg 94140

cgcctgttga tggagtacgg ctctaagctg gcgcgggcag aacgcgaggt cgcagatgca 94200

aaactctccc tcgatgcgat tgaggcaaaa atctactaca atgagcgtaa gaacctgagt 94260

atgaacggca ttaagttcaa tgaatccgta ctggaggcga aggttagaac caacccgcaa 94320

tacctcgcaa agcgccagaa actcgatgat gcccggcaca ttgcagatct atacaagcac 94380

gctgtaaccg ccttctctca ccgccgtgac atgattgtcc aggcgtccaa aatggctatc 94440

gtggagattg aacgcttggg cgccgaacgt ttccactcgc cccgttaatt tatcctagat 94500

gataagtaag tactgatcta ttatccttct cgctcgaaag agccacgaat aaacgaatgc 94560

ccaacgcgca tagcgccaat ggccacaatc acaaaaagga gaaatacatg tctaagtcat 94620

tacttgatct gcttaacaag acccgtggcg atattgcttc taaacgtggc aataacgttg 94680

atttgacccg tctgaaagac ggcaataact atctgcgcat ttttccgaac aaggacgacc 94740

cgaatggtgt gttcttccag actttcggta tgcactacgt taagcatcag aatgaggaag 94800
```

```
gcaaagatgt aaccaccgcc tacatctgcg aacagcacac ccacggccac gcttgccagc 94860

tgtgtgagat ggttatggaa ggtcgtgctc gctttaaggg caacaaagcg atggaagagc 94920

gcattaacag tatgcgtgct acaccgcgtt atctggtcaa tggtgttctg tctgcgcgag 94980

aagactttgc agacgcagag aaatgccagt tgattgagct gccgtctacg gtcttcgacg 95040

atatctgcaa agtgatgtcc gaagatattg ctgatgatat cggcaaccca ctgagcaaag 95100

aagaaggcta tgcgttcctg attaagcgta ccggttccgg tcgtgacacc aagtatgacg 95160

tatccccgaa acgtaaagtc tacaaaggcg acattcctga gaagctctgg actacccaac 95220

acgatctgat cgcatacgcg aaccaggctg acgaaacccg tctgctgtct acggctcgca 95280

ctatgggtcg tctgattggt attgcggctc cggcagcaac aatgtcctct ccggccattt 95340

cttccgctgc aaaatcagct gctgctgaac tgccaggctt tggctctatc actggtcata 95400

cggaaggcgc agctgctgtc gctacagcac acacaccggc tccagagtcc accagcctgg 95460

ttgatgaaga gatcctgcgt gccgctgaag ctgagttcaa accggaaact aaaccggaaa 95520

aggttaaagc tccggaagcc gccgcagctg caagtgcttc cgcatctgct gccgctgcat 95580

ctgtaccagc tgacgaaggt ctcgatgacc tgctggctga actggacgct ctgtaatccc 95640

ataacgtgac cagtaaggcg tctacggacg ccttactttt tggaaggagt gtaccggtga 95700

attatctctt tgtggacggt aacagcctgg gctattacca ccagcaatcc gacaaattac 95760

acaacggcga gatggaagtt caggcggctt ttggcttcgt gaagaacgtt cgtcgttacg 95820

cctcaattct ccatgcccgc ccaatgatct tgtgggatgg attcagcgac aaacgtcgcg 95880

acttctaccc ggagtacaaa gcgaatcgcg atgacgaccc ggatatgaag aagatgaaag 95940

aaggttttgc catccagaag ccgtacatct tgaaaatgat gaccgcgctg ggcgttaacc 96000

aactcattgc aaaggatgca gaagcggacg acctggcagg aatgctggtc tctcgcctgg 96060

ctccgcagcc gaccgttgat catatctacc tgctgactgg cgatggcgac tggcttcagc 96120

tggttcgcga gaatgtgagc tgggtaagcc tgcgtgaaga tgccaagcac aagcaggtga 96180

acttcgaaca gttcgcagag ctgaccggtc tgccgacgcc acgcgcgttt ctggaagcga 96240

aagcgttgca gggcgatacc tcggacaaca tcaaaggcgt aggtggcatt ggtgatggtg 96300

gcgcgaaaga gctgcttcat gaatggggaa gtgtggccgc aatggtacgc ggcattaacg 96360
```

```
acggctccat tgtcatcaac aaaggtcgct ataagacggc attcaacaag ctggcaaaga 96420

acgccttcaa cgagaagaca ggctgccgga tgctcgaagc ctttaagcgc aacatgatgc 96480

tgatgaacct tatcgacaca aaattcccac ccagcgaaat cgagtcgatt aaaggcgcac 96540

gcgacatgaa cgccttcgaa cagatgtgtt gcgagctgaa tttccggtcg tttctggaag 96600

atctggaagt gtttgttctg ccatttgaga ggtactgctg atgctgaaat ccatcattaa 96660

tggcggggca actacgccaa ccatgctggc taaagagatt gtcttctgcc acggcgaaca 96720

cgctgtggtg gcgctgccga acattctggg cgctgctggc atttctgcta ctgagcgtga 96780

gttcgcgctg gtcagcgagc aggtcgtgaa gatcatcgct cgcgtcgcca aacacctgaa 96840

ccacgacgca atcaagtttg acgaagccgc agcttcgaag cgaatcaacg aatcaaaagg 96900

agcctaatca tggcaaaagg caaatccgca ctggcactgg cgctgaaaaa gaaaatcggc 96960

agcaatgacg agattcagaa ggtctcccac tggattgact ccggtttccc tccactgaac 97020

aaagccattt ccggacgtta cgacggtggt tttccgtgtg ggcgtatcgt tgaagtcttc 97080

gggccaccaa cgccggtaa aacctttttg gcgacggctg cgatggtatc agcacagaaa 97140

caggatggtc tggccgtatt ccttgaccac gaaaacagct cgacgttgg tcttgcggtg 97200

gcgaatggct tgaacgccga cgaagacgac ggtcagtggg tctacaaaca gccggatacc 97260

ttcgaagact ccgttgagct gatcggcaca atcctcaagc tggtgcgcga cgaagagctt 97320

atcccggaaa cagcccctat ctgcatcgtt gccgactctc tggcgtcgat ggtaccgaac 97380

tcgaaagctg agaagttcga caagatggca gaaggcactg cgaaggacaa agatcagctg 97440

aacatgaacg acaacacggc gctggcgcgc gcgacgagtg cgaacttccc tactctggcg 97500

ctttgggcgc gtaagtacaa cgcgtgcatt atcttcttaa accaggtgcg taccaaaatt 97560

ggcgtgatgt ttggcgatcc gactacgtct ccgggcggcg actctccgaa gttctacgcg 97620

tcggtgcgca tccgtctggg agcatccgtc atgaaggatg caaagagaa gatcggacag 97680

gacgttggcg ccgagtgcat taaaaacaaa gtcgcgcctc cgtttggtaa atgctcatgg 97740

aaattctact tcgacccgac tcgcgggctg gacgtcatcg aatctctggt tgagtacatg 97800

ctggaagaag gatacctgcc aaagaacgcc agcgggcgtg tggaaattag cgataagaga 97860

tataccaaat cgcagatcgt cgagatgtac cgcgagaagc cactcccgga aatcatcgca 97920
```

```
gcactccagg cgatagacga acggcgagcg aaagagtcgt ccccagcaga gacagaagaa 97980

gcgtaatcac aaggcgccca ttgggcgcct ttttatactt gaaaatatat aagtacttac 98040

ttattatttc tgcaccaaaa cgacaaaagg aaacacatga ttaagggtta tctcatggct 98100

gtttcagcgg tggtgtcagt ctgctttatc tacggtttac tggttccatc gcttatctca 98160

gctaaaagcg atctggcctt ctttatcgga cttgccatcg ctgtagtctt cccggttgcc 98220

ttgttaaaag ctggccgcag gtatatcaac tcactcaata aaactaagga gaagtaagta 98280

atgaagaaag gtttactggc ggtgactttg gctgctattt gcacaatggg tctgaccggc 98340

tgcgatcgcg tggaaccggg atacgttggc attaaggtaa acaaattggg tgaagacaaa 98400

ggtatcggtg aagttgtcgg cgttggccgt cagtggactg gtctgaatac cgagctgtac 98460

accttcccca cttcaaaca gatgaaaacc tacgatgagc cgttcacatt ccagatgagc 98520

gacggtacag ccatcggcca caaaattggt gtggcatatc tggttaatcg caacaaagta 98580

actaccgtat tccagaccta tcgcaaaggt gttgacgaca ttaccgacac tgatctgcgc 98640

cagaagattg cggattcact gaaccgtctg gccagccgca tgactaccga cacgttcatc 98700

gacggtggca aggcgtctct gctcgacaat gcgttgaaag acattcaggc agaaatgtca 98760

ccggtaggta ttgaggttat tagcctgtca tgggtgggca aaccagacta cccggacacg 98820

gtcatcgaat ctatcaatgc caaagtgacc gcgaaccaga aaacgctcca gcgccagcag 98880

gaagttgagc agcgcaaggc agaagcgaac atgctgcgtg aacaagccga aggtgaagcc 98940

gacgctatcc gcaaacgtgc tcaagcagaa gctgacgcca tcaagttgcg cggtgaagca 99000

ttacgtcaga acccgaacgt catggagctg gaagccatca caaatggaa tggccagttg 99060

cctcagtaca tgactgaagg ggctaatact ccgtttatcg cgttgaagta acacccttt 99120

caaagatacg gcgtccactt ggacgccttt tttatttccg tattatcacc aacaagaaaa 99180

caaattggtt actaatacgg aattaacttc cgttgaagta aaaagtgaca acgccacgca 99240

atttctgaaa gaaggagatg atgaatgaaa aactacgctg aaatgacgga ctttgagatt 99300

aactgcctgg tcgcggaagc aaccggccat cgcccctca tctcacaata tggctggaaa 99360

ggctcacaag ttggagatta cacaaaagtg attgcgattg gccaaacgg agcgggttct 99420

ttcgactggt gcaacaatcc ggtagatgcc tgggacatca tttccagaaa cagaatcggc 99480
```

```
atcattccag ccagacaggc tggcgagtgg agagcggccc acaggctggt ggatagctca 99540

acaccacaac atctgatcca gaaccctaac cctttcagag cggcaatgat cgtgtttctt 99600

ttgatgcagg agaaaaaacg tgaaaaaact gtatgacgcg gccaacgctg cgctggatgt 99660

agtggatacc gaaattgccc agggcttccc ggagccagaa tgggcgacgc agctgcgtga 99720

ggcgattgca gagatgaacg caccggaacc ttcagaagat gaagccgact ggcagcgttt 99780

catcagaatg tacgcggaag agattggccc gacgccaacc gctgaacagg ccatgctgct 99840

caagtacttc aaggaggctg gggagaatct gccggttgat gacacaccgc actggtttca 99900

cgccgcctgg cgtaagttcg acgtgatcta cacccgcgat ctgggaagta aagatatggt 99960

cgtctggcat ctgatgcaca ttgataaggc tgtcgaccgc acgctggaga agttctttcc 100020

accagcctga acacaatgat tgtgtaccgc atggcgcaca ttagtataaa taagtactta 100080

ccaacaagga gaagcacatg aagattttgg ttcgcatttc atcaagcacc gactatgacg 100140

tttatccgtt gttcatggtc aagtgcgacg gtctgaacga tgaagaaatc caagcggcaa 100200

ttgagcgcaa tctcgttgag tatactggta tggatgcgga ttctgtgcat gtcgatgatg 100260

acggtgtttg ttggagcaat ggtagttgtt ggtatgtaga cgacacgacg ccggtaagcg 100320

atgaagacgc tgctcacctt gagcgtattt taggcatcag cacttttgag tgatatttac 100380

agcaaataat atataagtta gtatttacct atcatgaaaa ccgtattaga caccttatta 100440

cttattatct cgatagcttt tgtgctcgat tgcatcttca ccggagtaat ccataaagcg 100500

ctggcgcctg ttaatagcgc gatgattaat gcgctggccg tagtgctgtt attcgactca 100560

gcattcggcg ttatccaagg agtcgtggca tgaagaaaac agccctggct ctggcactgt 100620

tcactctccc tgtctacgcg aacacacatg tctatgagtg tgaaatgtct gtggccgaag 100680

tgaaaaacga cgagatctgc aacgtcgtca agctaacta cggcgcgatg attgtggaca 100740

gcggcgaaca gttttatgtc gtgcgcgatg atcgcgtcct gtcttcaccc tatctcacca 100800

gacgtaacgg caaactgtct ggcgtgggtg aagataagtt cgtttacgac aaatcaggtg 100860

atgtttacgg cgttcacgcg aagaacgcca gctacctttt cgatgactgc aaggaggttg 100920

gttgatggcg gttacaatgg caggtcttga aatcgaaaaa acaagcggct actggcgtgc 100980

caaagggttt                                                         100990
```

(2) INFORMATION FOR SEQ ID NO: 2

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 70559
      (B) TYPE: nucleic acid
      (C) STRANDEDNESS: double
      (D) TOPOLOGY: circular

    (ii) MOLECULE TYPE: DNA (plasmid)

    (xi) SEQUENCE DESCRIPTION:

```
tttactctgc ttcgctgaat tttcgggttg atgtaaaacg tctgcaactg cgtgaattgc 60

atcaacagag ccggggagca gccggcagca gaacactgag tctgctgatg cgtcagtcgg 120

gttataacgt ggtgcgctgg ctggcccgca ggctgatgcg ggaatgtggt ctggcgagtc 180

gccaacccgg aaaacctcgt taccgtggcg aacgggaggt gtcactggca tcgccagact 240

tactgaaaag gcagtttaag ccgtcggagc ccaatcgtgt gtggagtgga tatatcagct 300

atatcaaagt caatggtggc tggtgctacc tggcactggt gattgacctt tactctttcc 360

attggtgagt tatccaggca gttacccctg cggctcatac tctgcatcac tccgttcctc 420

cacagtaact gcctgtattt cttactcctg tactgccctc cttgatccga atgaaacagc 480

agcctctttt cccttgggcg cgtctccagt gcattacgcc aggctcgaca caccagctca 540

gcatccgggg atgacgatat ggcactgccc actatccgac gggagtaaac cgaagcctga 600

aaagtgaatg gctgcctgta gggggctata tggatgtcca tcatgcggta cgagatatcg 660

gtgaatggat acaaagttat tacaacacac ccccatcggc acaatggtgg attaccgccc 720

tgtgaatacg aagagcggtg gaaaaaggct acgaaggtgt cctgattttg tgatccacta 780

caggatggat ctgttggtca atgccggcat tcctgtccga actgtcaaca gtttcaaagc 840

gcttcacgac aaggtgatta tcgttgatgg caagaatacg cagatggggt cgttcaattt 900

tagccaagca gccgtacagt ccaactcgga gaatgtgctg attatatggg gggacttcac 960

ggtggtacag gcgtatctgc agtattggca gtcacgctgg aataaaggaa ctgactggcg 1020

ttcgtcgtac tgatctcact cttttcgctg agtcattaat gtgatccgtg cgccaacacg 1080

ggttatgtct gcaaaagtta agtcgctgat ttcataaatc tgttgtattc tctgcgaaac 1140

gatccttgtt tgatctttga gggggctgat atgtcgcaga tcgaaaatgc agtaacttcc 1200
```

```
tcatcgaaac gtgcctacag aaaggggaac ccgttaactg gagccgagaa acaacgtatg 1260

tctgtttccc ggaaaaaaga gacacataaa gctataaatg tgttcattca gaacgatctc 1320

aaaaacgaac ttttacaact ctgtgaagat tcaggtttga ctcagacaga aatgattgag 1380

cgctggattc agagagaaaa ggccgctaga actaatgcag cttgaatggc aactaagtta 1440

ctttcttgat ccttcaggca gtgagtgcta gattaccgat tgtttaaaga attttttggct 1500

ggccacgccg taaggtggca gggaactggt tctgctaagg tgtttacttg gaaccagaaa 1560

agcaaaaacc ccgataaact tcctcatctt tggcgaggcg agaaggttac cggggcccac 1620

ttaaaactgt atagaagctg ttgctctata cagggagtat atgtgcatgt tcagaaaagt 1680

tcaatacctt ctgcgcttgt tactccttcc gtgcaacata agtgcgggaa ggtgtgacta 1740

accaccaggc cctgttcaca catcattatc gacaggttaa aaacccgaat ccggaattta 1800

cgccgcgaga gggtaaaaaa accctgccgt tctgccgtaa gctgatggcg aaagccgaag 1860

gcttcacatc tcgttttgat ttctccatgc acgtcgcatt cgcgcgttct ctgagtttgc 1920

gtcatcgtat gccgccgtta ctacgtcggc gtgctatcga tgcattactg cagggtatgt 1980

gtttccacta cgacccactg gccaaccgta ccagcgctc gattaccaat ctggccattg 2040

agtgtggtct ggcgacagag tcaaagagtg gcaacctttc catcacccgc gccacgcgtg 2100

cgctgcgctt tttatctgag ctggggctga ttacctacca gaccgaatat gatccacaga 2160

ttggctgtaa tattccgact gatatcacgt tcacaccggc gctgttttct gcgttggatg 2220

tgtcggacgt tgctgtcgca gcagcccgac gcagccgcgt tgaatgggaa aatcagcaaa 2280

gggagaaaca acgtctgcct agattggaga tggatgagct gatagcaaag gcatggcggt 2340

tcgtccgcga gcgtttccgt agctatcaaa ctgaacgtaa ggctcatgga ttgaaacgtg 2400

cccgtgcgcg ccgtgatgtt gaccgtacgc gccgtgacat tgaagctatc gttaaccggc 2460

agctgacgcg tgagatagct gaggggcggt ttgtcggtaa tctggatgcg gtacgcaggg 2520

agaaagcccg tcgcgtgaag gaacgcatgc tgatgtccag gaacaataac tacacccggt 2580

tggccaccgg cgctacctga cgtcgtattt actgaaaatc cggttagcgc cggaggattt 2640

cgctcgtctg cctcctgtca gtgcttgtta tttgagcgat gtgacggccg ctacatgacc 2700

tatcttctct ttcccgccct gaaaatgccc tcgaattctc ccaatatcgt cgcttgaatg 2760
```

```
tactgattta ggttatccac agttaactgc aagggaactt cccataaagt tacaaccgat 2820

atgttttta agcgccagcc gaacttgttt taaagtgcgt ggtttctttt aaaccactga 2880

tcagcacttc ttttaaatac cttttctttt attcctataa ataataacc tattcgtcgt 2940

ctgccttttg dacagactat dataatgccc gcccttgcag cgaacttacg ttcgcgccgg 3000

ttcggaaaca aagaaatacc tcctatcacg atgctacgag cgcataaacc cttattagtt 3060

acaacattca cgattcgacc aaaaaaatac cagaccgcat acatctgaga ccactgcgcg 3120

caccctttacc cactaaaaag ccgccccgcc ccgggccaac ggcccggaac agagtggctt 3180

tacaatgagt gttgtaacta aaattttcga gtcgctgcaa gtcatgtcgc tggaagtcat 3240

tcgaacacgc tcgtaagcgg ccctaatggc ccgctaacgc ggagatacgc cccgcctgcg 3300

gcaaagcctt gtcgggacca ctccgaccgc gtaatgaagc acctacgcta cttttagtgg 3360

gtttagcttt gcagggagga gattgggatt ggtgaaacct atcaaaccgg aaccggctac 3420

gccgggctat cggcgccaat tgtcaacaga gttatagtta atatccgctg gcgccttcat 3480

gccgcgatgc ggcattgaaa agaccggctg cgcactgctc gcctgtccgg taaggacatg 3540

atataaacgt ttgtgtttat aagcactttt gtggatatcg ttatgcagct gagtgactac 3600

attgacagtg tatacggaac agccgtaagc gagcggcgat ctcatattgt taactcactt 3660

ccgttatcac actctggtct cagtcaatac aacgaacctg aggtgaaata tgacgacacg 3720

gtattctcgt agtgaacggc agcaccatct cgacgcctgg caatagagct gaatgtctaa 3780

aaaacactac tgtcggctgc atgacttgaa catcgccacc ttttattact ggctcaaaca 3840

tcatcaagat gacaccaccg ttgccattcc ccctgcgttt atccccgctc gccgggtaat 3900

accagacaat aacggtaccg aggcagtgac cctcaacctc cccaatggct gttcggtcag 3960

ttgtcttcct gctcagttac gcgctgttat gcaggcctta tccctatgtt gacgccacaa 4020

cacatctggt tggcacgcga gccggtcgat atgcgtcgcg gtatcgcaat acattaccga 4080

ccatctgcat cagccctggc aaggcgaagc cgcctttgtc ttttgcaaca aaggcgcgtt 4140

cgcgtatcaa agttctgcgt tggaacaaac acggggtctg gttgtgaaga ggctgctgtt 4200

tcattcggat cagggagggc agtacaggag taagaaatcc aggcagttac tgtggaggac 4260

cggagtgatg cagagtatga gccgcagggg taactgcctg gataactcac caatggaaag 4320
```

```
agtgttccga agcctgaaaa gtgaatggct gcctgtaggg ggctatatgg atgtccatca 4380

tgcggtacga gatatcggtg aatggataca aagttattac aacacacccc catcggcaca 4440

atggtggatt accgccctgt gaatacgaag agcaggggaa aaaggctacg aaggtgtcct 4500

gattttgtga tccactacag caacggaata gctccgctca gttatctgac ggacagcttc 4560

ttccttaaat tcaggggtaa aacgtggtgt gcccatagac tcctcctatg cttaagatat 4620

aggtcagatt tgtctacagg ttcgggggct ccccaaatat ctacaataac taaaaatcag 4680

tggctggaag tgatatattc tgggacgggt ttaatcaatg atagatatca ccgtaaatca 4740

gattaaagag cttttgtgtg attaacacca cctttactga gttactccca aaaatagcaa 4800

gtcactttgg attagataaa ttgagccaag atgaatatgg cttgtgtgag cttatcctca 4860

acgaccgagt cgttattatg ctgagggctg atgaaatatt gaatcgattg actctgttgg 4920

ggccaatctt aggattttct ggaccagagg cgcgcagcgc cgctagtcag ctttttttct 4980

gttatagcat caatgccttg aataaggacg gcccttgttt cgcttggagt gaagaactgg 5040

ggctgatcgc attcaagcac ctttctctcg acgagctgaa tgttgagaac gttagcaagg 5100

agatagcgaa cttttacgac tggttgagct tggtcagttt accagcagaa actgcccctt 5160

catactcaat ctactcaatc ggttaaatgg ggatgagtaa agcatgaaaa gcgtgaaaat 5220

catgggaact atgccaccgt cgatctccct cgccaaagct catgagcgca tcagccaaca 5280

ttggcaaaat cctgtcggtg agctcaatat cggaggaaaa cggtatagaa ttatcgataa 5340

tcaagtgttg cgcttgaacc cccacagtgg ttttctctc tttcgagaag gggttggtaa 5400

gatcttttcg gggaagatgt ttaacttttc aattgctcgt aaccttactg acacactcca 5460

tgcggcccag aaaacgactt cgcaggagct aaggtctgat atccccaatg ctctcagtaa 5520

tctctttgga gccaagccac agaccgaact gccgctgggt tggaaagggg agcccttgtc 5580

aggagctccg gatcttgaag ggatgcgagt ggctgaaacc gataagtttg ccgagggcga 5640

aagccatatt agtataatag aaactaagga taagcagcgg ttggtagcta agattgaacg 5700

ctccattgcc gaggggcatt tgttcgcaga actggaggct tataaacaca tctataaaac 5760

cgcgggcaaa catcctaatc ttgccaatgt tcatggcatg gctgtggtgc catacggtaa 5820

ccgtaaggag gaagcattgc tgatggatga ggtggatggt tggcgttgtt ctgacacact 5880
```

```
aagaaccctc gccgatagct ggaagcaagg aaagatcaat agtgaagcct actggggaac 5940

gatcaagttt attgcccatc ggctattaga tgtaaccaat caccttgcca aggcaggggt 6000

agtacataac gatatcaaac ccggtaatgt ggtatttgac cgcgctagcg gagagccgt 6060

tgttattgat ctaggattac actctcgttc aggggaacaa cctaaggggt ttacagaatc 6120

cttcaaagcg ccggagcttg gagtaggaaa cctaggcgca tcagaaaaga gcgatgtttt 6180

tctcgtagtg tcaacccttc tacattgtat cgaaggtttt gagaaaaatc cggagataaa 6240

gcctaatcaa ggactgagat tcattacctc agaaccagcg cacgtaatgg atgagaatgg 6300

ttatccaatc catcgacctg gtatagctgg agtcgagaca gcctatacac gcttcatcac 6360

agacatcctt ggcgtttccg ctgactcaag acctgattcc aacgaagcca gactccacga 6420

gttcttgagc gacggaacta tcgacgagga gtcggccaag cagatcctaa aagataccct 6480

aaccggagaa atgagcccat tatctactga tgtaaggcgg ataacaccca agaagcttcg 6540

ggagctatct gatttgctta ggacgcattt gagcagtgca gcaactaagc aattggatat 6600

ggggggggtt ttgtcggatc ttgataccat gttggtggca ctcgacaagg ccgaacgcga 6660

ggggggagta gacaaggatc agttgaagag ttttaacagt ttgattctga agacttacag 6720

agtgattgaa gactatgtca aaggcagaga aggggatacc aagaattcca gtacggaagt 6780

atccccctat catcgcagta actttatgct atcgatcgtc gaaccttcac tgcagaggat 6840

ccagaagcat ctggaccaga cacactcttt ttctgatatc ggttcactag tgcgcgcaca 6900

taagcacctg gaaacgcttt tagaggtctt agtcaccttg tcacagcaag ggcagcccgt 6960

gtcctctgaa acctacggct tcctgaatcg attaactgag gctaagatca ccttgtcgca 7020

gcaattgaat actctccagc agcagcagga gagtgcgaaa gcgcaattat ctattctgat 7080

taatcgttca ggttcttggg ccgatgttgc tcgtcagtcc ctgcagcgtt ttgacagtac 7140

ccagcctgta gtgaaattcg gcactgagca gtataccgca attcaccgtc agatgatggc 7200

ggcccatgca gctattacgc tacaggaggt atcggagttt actgatgata tgcgaaactt 7260

tacagtggac tctattccac tactgattca acttggacga agcagtttaa tggatgagca 7320

tttggttgaa cagagagaaa agttgcgaga gctgacgacc atcgccgagc gactgaaccg 7380

gttggagcgg gaatggatgt gacaagtgcc ccctaagcct tgagttgata tatccgagaa 7440
```

```
taggttaaga tttggcaatt gcttaacaat aattattttc ttattaaaaa tacctaacac 7500

aaaaaatacg ttatatatac aaatgaaaat ttccagtatt aatctcaaca agtttctcta 7560

ccggagaata ttaatctgga atgtgtaata gagaaaattt ttgatgctat caaattttcc 7620

tttttttgcag aaatatccaa tgtataggta tgataggagt tattgggaat ttttgttcga 7680
```

```
gtgctgcccg tctgttccgg gttcacccat caacgattga acgtcttatt gcaatgtacc 7740

gtttatctgg aatataaaat tcataccgct gttaattccc tgaataagga taaataaatg 7800

atcggaccaa tatcacaaat aaatatctcc ggtggcttat cagaaaaaga gaccagttct 7860

ttaatcagta atgaagagct taaaaatatc ataacacagt tggaaactga tatatcggat 7920

ggatcctggt tccataaaaa ttattcacgt atggatgtag aagtcatgcc cgcattggta 7980
```

```
atccaggcga acaataaata tccggaaatg aatcttaatc ttgttacatc tccattggac 8040

ctttcaatag aaataaaaaa cgtcatagaa aatggagtta gatcttcccg cttcataatt 8100

aacatggggg aaggtggaat acatttcagt gtaattgatt acaaacatat aaatgggaaa 8160

acatctctga tattgtttga accagcaaac tttaacagta tggggccagc gatgctggca 8220

ataaggacaa aaacggctat tgaacgttat caattacctg attgccattt ctccatggtg 8280
```

```
gaaatggata ttcagcgaag ctcatctgaa tgtggtattt ttagtttggc actggcaaaa 8340

aaactttaca tcgagagaga tagcctgttg aaaatacatg aagataatat aaaaggtata 8400

ttaagtgatg gtgaaaatcc tttaccccac gataagttgg acccgtatct cccggtaact 8460

ttttacaaac atactcaagg taaaaaacgt cttaatgaat atttaaatac taacccgcag 8520

ggagttggta ctgttgttaa caaaaaaaat gaaaccatcg ttaatagatt tgataacaat 8580
```

```
aaatccattg tagatggaaa ggaattatca gtttcggtac ataaaaagag aatagctgaa 8640

tataaaacac ttctcaaagt ataatgtatt ttggaaatct tgctccagta tgggaatacg 8700

gttcagttct ttctggctca tggtcaccaa catagacgct cggattgcc tgcctgtgaa 8760

gaaacagatt aactggggtt ctacgccgga atcccagatt tttccgtcac cccagtttca 8820

gcgctgctag agtacgggtg gtatgagccg ctagcagaag ctctaaatag taacttcttc 8880
```

```
caatggccga aaaagaaagc gttaaaaaat cacagtacgg gcatttctcg ggtttacgtt 8940

atttgtgcag aacgcacaaa tcaggttatt agatattatt gcttatgaac gggtagtatt 9000
```

```
cagcgaaata cagctcctaa ataactgcgc caaatagtag atcactgagg gaactcaatc 9060

cggtttaagc gatctgatca atcgctgaat atcccaaatc accacaaccg gactgagtta 9120

tgccgatcat agcaccgata cccagaaata aacgacatca gatggaaaaa attgtccata 9180

aaacagcaga caaaaaccat tccagacatc tcatcgctga tccctcccca atatccgtac 9240

caggctaaat cagagatccg gacctttttg atgacttcgg gcaaattctg ccggagtcag 9300

gttatttaac gaagaatgcg gacgaaaatg attatattct tgccgccatt gttcaatttt 9360

ctcctgagca tcttccagag aaaggaaccc gtgcacgttc agacattcat ccctcagact 9420

gccattaaat gactcgataa aggcattatc tgtaggcttt ccggggcgtg aacagtccat 9480

cgtgaccctg ttttcatacg cccatcggtc catcgacttc gagatgaatt cgctgccgtt 9540

atctgtctgc agcctttgtg gaatacgccc cagcgaatgt tttaatctgt ccatgacagc 9600

cacaacatca tctccacgta acccctgacc gacctcgagc gccagacatt cacgactaaa 9660

attatccact atagttagcg ccctgacccg atgcccgttg aacagattat cagcaacgaa 9720

atccatgctc cagcactgat ctaacgcggt cacttctgga cgtgcgtgcc tgtgcctcgt 9780

tgtcacatgc cgccgtggac gtttcgaacg tagattgaga ccctcaagat aatcgcacgg 9840

aaaactgcat ccgtccggtg gccgtaggcc gcaagaactg gttgttcgca gggtcattgc 9900

gtgccgggca acggatggcg tccatcctga gtctgctgga aaccgccaaa ctcaacggcc 9960

acgaccctta tgtctggctg cgcgatgtac tgacccgctt gccgacctgg cccaacagcc 10020

agctcaacgc gctgctacct tacgccgaaa accgcttcag ctaattaccc cgccagctta 10080

ttgcattatt ttaatcgagc aacgcgagtt caccgttcgg ttacagtatt accatctgtt 10140

cccgcttaat tttttaaaaa atttaaggta acaatgagta tatatcttat gggaaaagcc 10200

aaaaaactaa cgaacactat aataattcga ttaacattaa tgaaaataca cggctcacct 10260

attattaaaa taatacgact agcattataa gaaaaaatat tttttatgtt tatagtatag 10320

gcgtgtattt aattaaggag ggaagcatga acttatcatt aagcgatctt catcgtcagg 10380

tatctcgatt ggtgcagcaa gagagcggtg attgtaccgg gaaattaaga ggtaacgttg 10440

ctgccaataa agaaactacc tttcaaggtt tgaccatagc cagtggagcc agagagtcag 10500

aaaaagtatt tgctcaaact gtactaagcc acgtagcaaa tgttgttcta actcaagaag 10560
```

```
ataccgctaa gctattgcaa agtacggtaa agcataattt gaataattat gacttaagaa 10620

gtgtcggcaa tggtaatagt gtacttgtca gtttacgtag tgaccaaatg acactacaag 10680

acgccaaagt gctgttggag gccgcattgc gacaagagtc gggagcgagg gggcatgtat 10740

catctcattc acattcagcc cttcacgcac cgggaacccc ggtgcgtgaa ggactgcgtt 10800
```

5

```
cacatctaga ccccagaact ccaccgttgc caccgcgtga acgaccacac acttctggcc 10860

atcacggggc tggcgaagcc agagccaccg caccaagcac tgtttctcct tatggcccag 10920

aagcgcgcgc agaactcagc agccgcctca ccacattgcg caatacgctg cgccagcaa 10980

cgaatgatcc gcgttactta caagcctgcg gcggtgaaaa gctaaaccga tttagagata 11040

ttcaatgctg tcggcaaacc gcagtacgcg ccgatcttaa tgccaattac atccaggtcg 11100
```

10

```
gtaacactcg taccatagcg tgccagtatc cgctacaatc tcaacttgaa agccatttcc 11160

gtatgctggc agaaaaccga acgccagtgt tggctgtttt agcgtccagt tctgagatag 11220

ccaatcaaag attcggtatg ccagattatt tccgccagag tggtacctat ggcagtatca 11280

ctgtagagtc taaaatgact cagcaagttg gtctcggtga cgggattatg gcagatatgt 11340

atactttaac gattcgtgaa gcgggtcaaa aaacaatctc tgttcctgtg gttcatgttg 11400
```

15

```
gcaattggcc cgatcagacc gcagtcagct ctgaagttac caaggcactc gcttcactgg 11460

tagatcaaac agcagaaaca aaacgcaata tgtatgaaag caaaggaagt tcagcggtag 11520

gagatgactc caaattacgg ccggtaatac attgccgtgc gggtgttggc cgtactgcgc 11580

aactgattgg cgcaatgtgc atgaatgata gtcgtaatag tcagttaagc gtagaagata 11640

tggtcagcca aatgcgagta caaagaaatg gtattatggt acaaaaagat gagcaacttg 11700
```

20

```
atgttctgat taagttggct gaaggacaag ggcgaccatt attaaatagc taatgtaaat 11760

atttattcct atgagtaaat aaaattacta agagatatac accactttgc caatcaaaga 11820

aactttaaac ctcaactaaa gtaagcaatt agttgaggtt tatctgctgt agaataattt 11880

ttaacaaaaa tataaacaac aaaattaaaa gttatgtgtc tactttatgt aaccaaacga 11940

gcctgtccat aattctgtgt aatcgccact gtattaaagg tgatcgttta gacggtcacc 12000
```

25

```
gaactcgata ataaaacgac tcattgccaa ccgccagttt tgtattggca tgctccattt 12060

tttcgaagca tcccggatag ccagataaat aaccttccgc accgagtcgt ccgtcgggaa 12120
```

```
tactttgcat ttctttatcg cctgccggat cacactgttc agtgactcaa tggcattcgt 12180

ggtgtagatg gccttgcgga tatcgggcgg atagccgaag aaggtattga gattttccca 12240

gtgtgtatgt agtccctcct atttttagta ccaccgccag tgaggatctc catccagttt 12300

ttgtcttgca tagataacgg gtggcatatt acccagtgag ctatgcgggc gttcttcgtt 12360

atattccgtt cgccagtctt ctgtaagcgt acggacttcg acagtgaac ggaacaaata 12420

catatcaagt atcactccgt gatgttctgc ccattcaacc agtgctgcag caataaattc 12480

tggaccgtta tcactccgta taaaagcagg atagcctctt tctgtactta atcgctccaa 12540

aatacggacc actcggtgta ccggtatatt caagtcaatt tcaattgcca gtgcttcccg 12600

gttaaaattg taacgaacgg tgcaatagtg atccacaccc aacgcctgaa atcagatcca 12660

gggggtaatc tgctctcctg attcaggaga gtttatggtc acttttgaga cagttatgga 12720

aattaaaatc ctgcacaagc agggaatgag tagccgggcg attgccagag aactggggat 12780

ctcccgcaat accgttaaac gttatttgca ggcaaaatct gagccgccaa aatatacgcc 12840

gcgacctgct gttgcttcac tcctggatga ataccgggat tatattcgtc aacgcatcgc 12900

cgatgctcat ccttacaaaa tcccggcaac ggtaatcgct cgcgagatca gagaccaggg 12960

atatcgtggc ggaatgacca ttctcagggc attcattcgt tctctctcgg ttcctcagga 13020

gcaggagcct gccgttcggt tcgaaactga acccggacga cagatgcagg ttgactgggg 13080

cactatgcgt aatggtcgct caccgcttca cgtgttcgtt gctgttctcg gatacagccg 13140

aatgctgtac atcgaattca ctgacaatat gcgttatgac acgctggaga cctgccatcg 13200

taatgcgttc cgcttctttg gtggtgtgcc gcgcgaagtg ttgtatgaca atatgaaaac 13260

tgtggttctg caacgtgacg catatcagac cggtcagcac cggttccatc cttcgctgtg 13320

gcagttcggc aaggagatgg gcttctctcc ccgactgtgt cgccccttca gggcacagac 13380

taaaggtaag gtggaacgga tggtgcagta cacccgtaac agtttttaca tcccactaat 13440

gactcgcctg cgcccgatgg ggatcactgt cgatgttgaa acagccaacc gccacggtct 13500

gcgctggctg cacgatgtcg ctaaccaacg aaagcatgaa acaatccagg cccgtccctg 13560

cgatcgctgg ctcgaagagc agcagtccat gctggcactg cctccggaga aaaagagta 13620

tgacgtgcat cttgatgaaa atctggtgaa cttcgacaaa cacccctgc atcatccact 13680
```

```
ctccatctac gactcattct gcagaggagt ggcgtgatga tggaactgca acatcaacga 13740

ctgatggcgc tcgccgggca gttgcaactg gaaagcctta taagcgcagc gcctgcgctg 13800

tcacaacagg cagtagacca ggaatggagt tatatggact tcctggagca tctgcttcat 13860

gaagaaaaac tggcacgtca tcaacgtaaa caggcgatgt atacccgaat ggcagccttc 13920

ccggcggtga aaacgttcga agagtatgac ttcacattcg ccaccggagc accgcagaag 13980

caactccagt cgttacgctc actcagcttc atagaacgta atgaaaatat cgtattactg 14040

gggccatcag gtgtggggaa aacccatctg gcaatagcga tgggctatga agcagtccgt 14100

gcaggtatca aagttcgctt cacaacagca gcagatctgt tacttcagtt atctacggca 14160

caacgtcagg gccgttataa aacgacgctt cagcgtggag taatggcccc cgcctgctc 14220

atcattgatg aaataggcta tctgccgttc agtcaggaag aagcaaagct gttcttccag 14280

gtcatcgcta aacgttacga aaagagcgca atgatcctga catccaatct gccgttcggg 14340

cagtgggatc aaacgttcgc cggtgatgca gcactgacct cagcgatgct ggaccgtatc 14400

ttacaccact cacatgtcgt tcaaatcaaa ggagaaagct atcgactcag acagaaacga 14460

aaggccgggg ttatagcaga agctaatcct gagtaaaacg gtggatcaat attgggccgt 14520

tggtggagat ataagtggat cacttttcat ccgtcgttga caaaaatctc cactacattg 14580

aataatctga acctccgacc gtctgtcagg gcatcactca taaaatcgac tgaccagcag 14640

tggttcattt taagtggaat agccaaaggt tgtggatgcc gattgggcag gcgctttta 14700

ccttttcgcc gaaagttaag cttcagtaag cgataaacgc gatatacccg ttttacattc 14760

cacggtaatc cagactgccg taacttattg aacataagac caaagccata tgccggatat 14820

tgatgtgcca atttttgtaa tacctcaaca accggtatat ccctcgcggt gttaggacaa 14880

taatgcagca aacttcgact gatacccata atccggcacc cgcgccgttc actggcctga 14940

tattccgtca tcacgtaacg caccagttcg cgcttttcag gtaccgttaa agttttttg 15000

ccacgacatc cttaagaatt tcatgatcta aactcagaga ggcatacatc tgctttaatc 15060

gtcggttttc ctcttcccgc tctttcattc gctttatatc agaggactcc atgccaccat 15120

atttggattt ccagttgtag taactggctt cagatccgcc gttctcgcga cagacatcct 15180

tcacatgccg gccaccttca acttctttta gaacccgcag gatctgagtt tcagtaaaac 15240
```

```
gtgctttctt cataatgacc tccgctgatt atatattaac cagagaactc cattaaacga 15300

taagactaaa ttcaggggggg actacaagat aacggggagt ggacaatacg ttaataatgc 15360

gttattcatt tcaatacgca aatgtaattt aaactaatta tcatttagat aaatacgttt 15420

ttaattccaa tgccccgccg gcatggcgta aaaatataaa gtatccatcc ccccaaaccc 15480

tatttattag caataaggtc agctagccca ctggtaatgc aggaatacca gagatagcaa 15540

cgaatattga ctgggatgac atcaaaataa ccataacccg gcagtcgcta caatgtgatc 15600

tttcatccta attctctcaa tttatatgag gagcagactc tactgataaa taccccccact 15660

tcaggggatc accgaaggag gcgtattatt attctaaatt ggctcagggg aaagaattga 15720

tacatgactc cttgaaaaat ggttacgtaa atcaacctgg gggatattat tgcctcaata 15780

tacagtagat atatattatc tcagccgtca gccgccgtat cctggcgcat ggcggcttct 15840

agcaataatt tagcatcgct aagcgagagt tgttcagtac gcaagccggt cactatcact 15900

tcccctgcct tgccctgctt tagttccaaa ttagaaacgc gtggtaataa gcaggcaata 15960

tcgtgacgac tgagagccgt atttttcaca tgttccagca cctcattggc aaaggctttt 16020

tcggcggtag atatctgatg actattctct gtgagtgggt tagtttcagt gagacgaccg 16080

gcctgccccc cgtgtcccac ttgggtaatt tgttgattta ttaacgattg aagagtattg 16140

attttcatcg agtctcctgt cgctataatt gtctctacga tattctaagt tatttatttt 16200

tgctaaacta ctgtcgtaga cgatttattt ttttaatcgg cttttaaaca gaaaatcaca 16260

ataaaaaatt atttttggga atcattctca taaaacgagg atgaaaaatc caatttaggt 16320

agataactca atcttataat agataacact aaacatatat cgatagttat tcctattctg 16380

taactttcat ttgtcctaaa gtggtagata ttgcccgaga aagtgcttca atttgcccat 16440

caatactcgc gtcaataata cctacctcag tctctaatat acagcccct tgatccaaac 16500

gcgcatcggc agtcacctct aaatagctta tttccgggaa gtctttatgt actttagcta 16560

tttgttcacg aatagctcct gcctgatcag ggttgaccct gaccacgact tgcttctgat 16620

tactcaccaa ggctaaagcc tcccgcacaa cttgcagtgt catagccact tgatcatagt 16680

cattgaggat tttacgtacc gccaaaagta caacttcact catctgttgt tcgacgtggc 16740

gataaaattg ctgacattgt aactgtgttt catgaatcaa agtcgcctgt aaggtacgcg 16800
```

cctcatccat gccagcctgc catcctaact gcttttgttg ctcataaacc tcttgggcgt 16860

cagccaggat cttttcagca tcctgttttg cggcactaat caactcttcg gttgttaaac 16920

tggattggta atcttcggcg cgcaaaatac gcagaccgca agcgagcgag agattacttg 16980

gtattatttg aacaaatggc tgcatgtagg cgtaacctgt ttgacaagtt tgtgacataa 17040

agtttgggcc agtgggcgtt gtgactcggc cactaaccaa ggttctgacg gcgtagctaa 17100

tgggaggcgt aaactgagcc gtttacacca tgcctgaggt tggggttcca ttgctgctaa 17160

ccaaaaagcc agccccgact ggatcatggt acggctctct atttctgtcg gcagcgggcg 17220

ctgccagtga gtgggccaag gcccgattag cagctcatgc tgtacaataa tttgccttaa 17280

tgtttcttga ttaaccaatg tcaataattg ttgtaatggg gaggccagta cacaacggcg 17340

aatcgcctcc ccatgcagaa ctaatccaag gcgacaaagt aacagttcga gctgtgattg 17400

aggctgcaaa ggcagcgccc ccagcccatg gggctcttca tagtcggtat caagagaaaa 17460

ttcatccaat aaagcagcat tgagatgagc actatcgcgc cactgaggta agtagggcaa 17520

tattgaacgc cataatgatg gtaactgttc caagtgcaaa taagccgcgg ggcagaagcg 17580

caattgaaaa gaggtaatat aattttccat catcacttct tgcgttgtaa ccaaaaatat 17640

tgagcaagat tggtcactgg caaaagcaaa ataagcaacg acaacaagcc aataagatgc 17700

ccttttgact cttcactcac ttgaattgac agtatgctcg tgttacgagg taaatgagag 17760

ctttgacgaa catctaccga tggcaccaaa atgacactga tgcgatcata ggccagcccc 17820

tcaatactat tattcactaa ttgtttaatc tgaggtatgt aggtatcaaa ctgaatatct 17880

gctgcatgct tgataaaaac cgaagcggat gctgctacac ccttcttacc tttgttattt 17940

tgctcttcag gcaatacgac atgcactcga gccactaata ccccgtcaat ttcagataaa 18000

gtgcgggaga tctcttgcgc cttggcataa ttaagcctcg ccaactcttc tatcggtgaa 18060

gatatcaacc catctttggg gaacacatcc tgtaacgtgg agaaactctc gtgtggatag 18120

cccttccgtt tgagaatatc aatagcctga gcgacatctg actcctcaac caagagctta 18180

atcttccat ctttgtctgg ctctttgtct gcggaaaggc cttcttggcg caacagcgca 18240

agcatttcgt tcccttcctt ctgactaatt ccggtataaa gatcaacttt gcaaccagtt 18300

aaaaacaaga ttaatatcaa tgttgacagt gaagtcttaa ctttcactag ttttcacccc 18360

```
ccccttcgaca aggtttcaac attttggctc attcgcccgg cagtcttggc gataagttct 18420

tcttggattg ttatacggat aagtgaccat tgcattagca tcaggtcgtt gggattatca 18480

actgaaacag ccagcttagt gtgtaagtca ctttttaaccg tcttaaaaga cttctgaata 18540

tcactaacct ccttgaggag tgaatggccc agtccctgcg tatcttctga cattgccgca 18600

tcaaagcgca ttatttggtc agttgttggc tctgccggcc ctaattcctc cagcgtggtt 18660

atgatcacct catcggcctg agctatttct atgttcggca tttatgtatc catatcaatt 18720

tgatggctgt tatgaagtag gctatctaca atcgagttag acggtaatag gatcattaat 18780

tctttatttta ttaactctga taaataaggt aatccaacct ggctctcatt gggttttata 18840

ccctctaata cttggagcaa tattgcttcc caccgcttac caaacgagtc aaactgctgc 18900

aatacactac gcaattcagg taaatctata gccggtacaa cagacccttg atgttgaccg 18960

aaacgcgcca gtaacgcctc acgtactggc gtcgccaaaa cctcaagaac ggcatggtca 19020

ggagggttac tggcataata ttgctgccac agaacttccc gtgtcttttc agcggattca 19080

cttttttagct tattctccag ttgtgttttc agctcagatg ctaccggttg tagcgtagag 19140

actgcctgag acgaagacat caacgatgta atggaacctc tattaagggt aaccgtcatg 19200

ttttttagttg ctccctcatt ccattcacaa atgtctgtat tctaggatcc tgactccttg 19260

cgagacgatt taaacgtgac tctaaggcgc tccccaaccc gaggcgatat tcacataagg 19320

ctaaccaagg ttccaaatca ggataagcta atttatttcc ttgttgcaag gcgcttgcgt 19380

agtccccacg gttcatcaaa gaggaaaggc gaatcaattg aaccgcctct tcttcacctt 19440

tcaaatgtaa ccattcagca atgcaattcg cttcttcgtg gtagtggttg ccggttccaa 19500

tcagagcaat ctctgctaac agtacgttga gtttatattt catattatgg gaacttctgt 19560

aggatgcctt gcattaagtc tttcatgcta cgaactatgg ttgagtttat attgtaaatt 19620

accgaccatt tattaattga atgttgtaag tcagcaagta gcgccgggtt gtcaggctta 19680

tctttcaatg ctgctatcga gtcattaacc gctttgtttg catcgtctgc tggcttcttg 19740

agcgtttgag ccaccgcatc taagtctgcg atatcggttc ctttcgtaaa tccagagaag 19800

ttactcattt attttaggtc tcctgctaca taatgaataa tggctatagc tgactcaaga 19860

gctttagatt ctctctgcca aacctgatac tgcttggcat caccaccgcg catcatatct 19920
```

```
tttttgagct tagttagtgc catttctagt tgcatggtga tagagcgcac tgtctccacg 19980

ttatgcagtt gctcctctaa ttgtgtcatc gaggtttacc tccattgagt tggatcacaa 20040

attcccgttt tcctttactc acaatcaccg catcgcgtcg aatagccaga atacgaacgc 20100

cattgttaag tatggcacct tctggatagc gttgatgatt gtcgagtacc acataaggca 20160

ctttcccctaa cgagatagct tgcacctcga aattcaattc atcatgctgg ggttgccccc 20220

cgacattgac cagttctaat ttaggtcgat tgccaaactc ttggcgaaaa gtttgttgta 20280

gttgattaaa tgaattcaat ttttcatcat tgacttgccc gcgtaattca atcagctcac 20340

ctttaacatt tacagtgaaa tctgaatcca gaccaaattg ttcaagtaat gcatcaagcc 20400

gcttgcgttg attaccggca atccgcactt tactttctac accgagcagc cctggcactt 20460

cagcttgcag caggctatca atttttttgct tttgtatttc ctctgacact tccccattca 20520

attgtagcca tcccgcttgc ggtgctaaag aaacctcaat tccatggtat cccaaccgtt 20580

gcaggatgaa ttctgccccc tgacgcagtt cttccatgct gcgcagttca agccggaatg 20640

gaatgccatg gctctcaaga aaattttgca gtgacaagcg ggcatgatta tcctggatat 20700

aaccagttaa taaccaaggt tcaccctctt ttttgggcga tgttaaaacg acatccttgt 20760

aagcagcagt tgccagcaag cgccgtactt cttgctcaac aagttgtcca tcctggttat 20820

actcgcgcca caatccgtgc cctagcagcc ccaaaaaagt caaaagcaac aataaagaaa 20880

gaactccaag cccaatccca agtcgtgaac gaggtaacct gtcggttggc tcttttctct 20940

gcgtgggaac ctgtaacgtc tctggcaaag gttgccctac ggcgacaaat gtccacagta 21000

aaaaacctac ttccagacaa gagcccgcgc gaagaagagt ccccaacggc acgggaagcc 21060

cttcttgtag tagaggttct gcagaatcag ttaggcgaat accttcttca tcgaccatca 21120

gcactaaatg cacgggtgct atttcgctgt cagaaagaac aatatctgac tgcaacgggt 21180

ctgaaccaaa aacacagcgc ccatgaggaa gctcaacttc aacaccacgg tgcttccctt 21240

gataaaaacg acagacccaa ctcacaatac gccacgctta ggcgctgaaa cacaccatga 21300

ttccgcggga gtacaagcac cttcaaccac gcgccatccc aaactttgt ccatcttgca 21360

ctgagtaaga taggatgatt tattgttttg actcagccat ttctgcactt cttgcgcttt 21420

gtttaaaggc tgacactgga agccacctaa taacttattc aaggtagtgc tttgattaga 21480
```

```
tatttcatca acagctaaga taccagtacg tagatcccga ccattaccta acgctaaatg 21540

atgcgcaata ccttcgtcaa taatccgtgg ttcgatgata aacagccgta ccgtacggcg 21600

agttaactca cttttacggc ggaaaagtgc gccaagataa ggaatatcac caagcaaagg 21660

caccttacta agagcaacac tcaattcgtc acgataaata ccaccaataa tcaaactctg 21720

gccatgtccc acgcgagcga cagtatcaac gaccgtacga ctgatagtgg ggattccgtc 21780

aatccctgaa ctattcggtt tttggttccc atcctcaatg tgtagattga gactgatttc 21840

tgacttatct ccttgagtca gcaccttgg tgtcatacgc agcatagtgc cgtaggtgat 21900

ccctttcagt tcagccactt ctttacctgt cactttgacg taataggttt catggtgatc 21960

aatcaccgct tgggcatttt cttgtgttag cagggtcgga cgtgaaacaa cttgagccga 22020

accttcattt tcaagtaaat tgactcttgc taataggtag tcaagcccgc gagcatcaat 22080

caaactaccc aatgcaccgt ttgaagcgat gttactttga tccccggttg tttttattac 22140

cacctgatga ttgttgccag tacgaatgcc aactcgccag tccacaccta attcagtaag 22200

ttggtcggca tttatatcga caatggataa cgccacttca atacgagcgc taggtttatc 22260

aagcgcatga attaaccgtt gatacattgg catacgctca ggagaatcgc gcactattat 22320

cgcattgagc gatggatccg cttcaacctt ggcttgagct gaagcccggg tagcggcctg 22380

cggtattctc tgattatcca ctgtcacttg ttggattgtg gcatcgctta acacgcgttg 22440

aagtatcgtt gcaaccccag gagcagccac ttcgtcatca cggtaatgaa tagttcgatc 22500

gctcgctgat gcatatttga gagggaaaat ctcaatcgct aatgcccctg ttttttcact 22560

gcgaatttgc gtctgttgtt ccaatgcggc tgcggtctgt tcaaccaatt caagataacg 22620

aggaggacca gagacgtaaa caaggcggtt gctagcatca gggcgccagc caaaacgagg 22680

ctcccatata ccagaacgtt gtaatgccag ctttaactct gcggcctcac tttcctgtaa 22740

acgaatgaga cgagacgcta cctcactatt tttaaaaatg tagagcacat tgccatcata 22800

gtaccaaacc aaattgtaaa gggaggcaat atgctgtagg aaatcctgag ggttatcatg 22860

ctcaaactgg ccggaaactt tgtcattaat cttatcgctt actaccactg tagcatcata 22920

attagcgctg aaatcaatta ataaatcgcg taaactttcc cccttcgcca cataaacata 22980

aggtataggc aaccaatcaa gttcttgcgc ccagctatag ttagaaagta acagtaacgt 23040
```

```
cccggtgagt acgcgcttga aaaaagaatg tagcggaaaa gccatattac ttaattccac 23100

cccacgcgag acgctacaga aaatggtgtt aactgaggaa ttaaatgttc tagcagagcc 23160

agttgtttat ttattacttc ttgcaatccg tgagtatcaa gctcttgtag acgtaaacgc 23220

gcctccagta ccaattgacc acaatcatcc aatactaaag tttgagggta acgtttagcc 23280

catgccaacg cttgttgcat tagggagcga agcaatgtga cgttaacgtt atttccttca 23340

cgtaacattg gtgcgtcaat aggagtgcgt aataccagtt ctgaaccatg cggagccagc 23400

atgacaagat gcttatctat agttaaacgg taaacacctt gtttatcggc aacaaacggt 23460

tttcttccta aactggctgc caagtttttt agtaaatttt gcattatttc tcggatggtt 23520

atatataaac taagtaatcc tgcgccaaat aaataaccta cttcatgtca tcgtgacata 23580

aggtttcgcg gttcagctca aacttccaga tattcaaaaa aatgttcatg ataattatca 23640

accacctgta tagcaataga tgatattacg ttaatcgaac taatgagact tgctctattt 23700

gatggaggtc gtttcttgcg ccaccgcact taataaacca gataagctat attgattatt 23760

aaacaacata ttattgccat ccagcggcga aacaatactg ttctatgttt cgttgaaatt 23820

tggctcatcc cattgaatct tcacaatcta atcccgtatt ttactttata gtccaaaagt 23880

gtcttttaaa aaaaacacag ataattttag cctgtggttg ctattttagt aagacgggct 23940

tggcttggag tgcatccgaa gcgacgtcga taactttgag tgaaataaga ctgactcgag 24000

aaccccgctt ccatggcaat atcaacaata ctcatcttac cattaagaag taattggtga 24060

gcatagagaa tacgtcgctc gcttatccag gcgcgtggtg aaatgccata aactgtacca 24120

aacagttctt tgaatgtggt taatcccatg ccgaattctc gcgcaaattt gcttagcttc 24180

cacccttgta gataattttc ctccataaat ttttgcaacc gttcttctgg gcggttgcct 24240

aaatggcgca gagccgagag aaataaagtc ccttgcgagc taaaggcaag caaaagcagt 24300

aattcctcaa tacgcagttg cgttaatact gacggaaaat cactccgttc caatatggca 24360

catagatttt gaatggattg tgataatatt ggtgaaatat taaaaattaa caatggtttg 24420

ggtgtggagt tgtctcgtcc aatttcacta agcaaagaac caaagcgatg caaaaaagta 24480

ctcaaaaaac tgccgggtaa tggaatccaa agtaattggc agggttcttt tgtaccacat 24540

cgaacagcat agctgccacg acgcaaaaac agcatattcc cctcatctaa atcatatgtc 24600
```

```
tgaccgctgc tctgccatga aatctgacct tgcaaaagaa tatataggcc atcttgtgaa 24660

tgctcaacaa ccttaaatat aggtgtgacc cattctaatt taataatctc tagtgatgcc 24720

ataaatgtta tactgtccta aaaatctaaa acttgtatat atttatctaa tgaggtgtat 24780

tgagttatta tgcgtgcgat gtacaaccat cgattaatgc aaccaaaacc aatataataa 24840

atcacctatc tggtattagg taactggcaa tttggataac atgttttagg tatcatttgt 24900

aaaacgactt tgtttttacc agtaagcttt tgctgagcca ccgcctgaac tcctcgctct 24960

ggaaaagaga gggttgaccg taggtaaagt tcaccttccc cgcgttgagc tggattcagt 25020

tttatagaaa agaataaagg taggttacct gtttcgaaat gagtgcgctg aacctctcga 25080

actttcccct catacaaccc aaacatacta acatcaatgt gtgctatgcg agataatggt 25140

cgtgacatac gcacctcccc cacaatacgc tgagctggca ttgggggggt agcgcacccc 25200

actaatagaa aagaaatgat gagtgctata atacgactca cgccagtccc tcccttgagt 25260

tcacacaaag aagatagcta gatgatagca atccgagttc gcgcaatatg tggtgaaatt 25320

tattattgta aaataacaac ccattcccaa ttatctcaac gggtccacca cgaactcatt 25380

taatttagct actgcaatat cacaccttgc gcatataaag ccaaacatcc tttctttcat 25440

aaaaaaagga tgtttggtta gaatcggaat cagcaaacaa acacatgtaa tagtaatgac 25500

aatactgtat tatttgtatt caacaaaaaa aagtcaagag attaatccta attagtgcta 25560

gttatgttta attgtaaaat gcacaggaga aatacaatta ccatactgta tatatggttt 25620

taaatcgcat catatattcc taatataagt gaacctcttg ttggttaacc atatcgaata 25680

aattacatat tcccaatagc cggtgttaat caccccattt ttccgataaa aacatagact 25740

agaaagtaga gaaaatagta tagaccaaca aaaatgtcat ctgttttaac catattccta 25800

gttacattgc agcctattat aacatttcgg aatgttgttt ctcgatattt tgcctttcta 25860

gccatcgtag cacttcagct gtggcctcta tttgctcagc cggaatatag tgatcgacga 25920

gcgcatccca ataaagagca cgggctaatg ggatacgttg taaaataggc accccttctt 25980

cttctgctat tttgcgcaca gtctgaactt gggcatcggt atatttgaat gttaccaacg 26040

gtagtggtgt ttcccctcgc ttgtaaagaa taccaatagc aatatgggtc ggattagcta 26100

ccaccactga tgagcgttta acattttccc gcatgttcct cgattggatc tcttgatgaa 26160
```

```
        actgacgacg cttgcttttg atttctgggc taccctccat ttctttgtac tcgcgtttga 26220

        tctcatcctt gctcatttta agttccttaa tatattgata gtattcaaag gcatagtcgg 26280

        ctatggagat gaccacaaag ccaacagtac agataaccat caactgccgg agtatttgcc 26340

        ccaataaagg ggtaatacat tcaattccac aggttggcaa ctgcaagagt gtgactagat 26400

5       ttcccttaat gattatccag atgagtatac tgagcaaaac aaccttgaga atggatttga 26460

        gaaactccac taaactttg atggaaaaga tacgcttggc accctctatt ggattgattt 26520

        ttttaatatc cggtttaatt gcttcaccac ttataagaaa accatactgc acaacatgag 26580

        atgcgatcgc cattaatgcc gccactgtta acaaaggaaa acagagataa aaaaactcga 26640

        gcaacacatt gtcaaccaca tagctaagcg cctgcgagaa aggaagatag ctctgctctg 26700

10      cggggattag catcagctta ctaaaatgct cgaaatagta gtcagaaagc cccattaaca 26760

        tcgcactcag cgcgacgata agcgcagtag agaccacttc cttacttttc gctacctgtc 26820

        cctttttgcg cgcatcacgg attttcttcg gggtgggttg ctctgtcttt tctccgctca 26880

        ttacttctcc aaaacaggga tcagtaaact tataggatcc ataaccaaca gcattgcttt 26940

        actggcatga ctcatcattt gcatacagta gataaccaac aacaggcttg ctatcgcgct 27000

15      ttttatcggc atagccagca caaagacgtt taaagaaggc gcaaaacgac tgatgagtgc 27060

        aagtccaaat tcagctaaaa acatagcgat gagtaaagga gcagccaata cagcggcgat 27120

        taatagtatc tggctgaatt ggttataaaa gaaatcaacc cactgttcac taactgcagg 27180

        gaaaaagctg gccaccggcc aatttacata gctgtgaaag agggctgaaa gcaaagagag 27240

        gaaagccct ccgctgaaga aaattgttat taacgtttga gtcaaaagta aaccagtcgg 27300

20      actagtttga ctatcaagtc caggattgag tagagatgcc atcgcggcac ctctttggtt 27360

        atctacaata aatcctgcgg attctaaggc ccagaaagga atggtggcca caaacccaat 27420

        caataacccc agtatgatct cttttgccgat aagcagcatc aacgtaaacg catcaacctc 27480

        aatataaggt tggttagcga cggcaggata gacataaaga gccaatgaac agacaatacc 27540

        attacgcagc aatactccac cgaggagctg tttacttaac actggcaata taacaaaaca 27600

25      agccataaaa cgaggcaaca gcagggtata agtgagcaat ggtctttgga ttaaatccgc 27660

        tatcatctta tgccttgtat cttcatcatg gtcatttctg caaaactgtg caattcatta 27720
```

```
ccaagccacg aggcggtagc aaacagtgtg accaccacag cgatcaattt gataacgaag 27780

cccagagttt gctcttggat ttgcgttaaa gcttgtacta aagataccaa agttcctacc 27840

accgcagcca ctaacaccgg cggcattgaa aggactagca ccagccataa tgcctgactg 27900

gtgaagtgaa ttatgtcacc ttgactcatg tcaccctccg tagctaatca ccagcccatg 27960

cgtgagtcgt gtccagccat caagtaaaac aaatagcagc aatttaaatg gcagtgaaat 28020

agtcatgggg gaaaccatca tcatccccat tgccaacaag atattggaaa taaccaggtc 28080

aatgacgata aatggtaaat agatgagaaa gcctatctca aatgctcgag tcaactcact 28140

caccgtaaac gcaggcaata aaatgaacag gctgtctgac tctaaccggt cagcatactg 28200

cttgggccat aactgtttag tgctgtcaac aaaaaaagag tattcttgcg cttgaatatg 28260

ctgcttaagg aacatgcgat aggggggcaag cccttcatca aagaatttct caacagattc 28320

tatgttcgtg aggctaacct cattagcttg taaatagtct tgcgtcgcga agccaacggg 28380

tgccattaca taaagactaa ggatgattgc taagccatac attgccatgt tggggggggat 28440

ttgctgtacc ccaagggcat tgcggagtag tgaaaagacc accgcaaatt tgacaaacga 28500

tgtagccatt accgaaatca atggaagcag agtcagcaaa gataaaacga tgatgagatt 28560

aatttcatcc ggtaactgga tcatgaaatc gtaacctctg tcaggcgttc aattcgaacc 28620

ccgaggcgcc cttggatctc gaccaatcga ccatgtccaa gcaaccggcc gttagccagc 28680

aagcgcactt caccatcaac aggtgttgta agatcaataa gagaacccgg ctccaggcta 28740

gtgagtgtgt gccaatctaa gatttgccgc cccacttcaa agctaacttg aaccggaagt 28800

tggttcaaat cggtcaatgg ttcggggtta agttcgtcag attcatgact cataccgata 28860

aactccaatt tatttgattg taattgaaag tagccccaag ggttctcacc aacataggcg 28920

agtactggcg aattaggccc actcccctca ggggccaaca acacatcacc taatcgaagg 28980

gaatcaacct catctagagt caggtatact ttatgccaac gcaaagaaat aaggataggc 29040

aaaggtatgc gctcagaatt gggtcgtgcg ggtaacagag cgaacagagc ctcagctgag 29100

gttagccaga aggagatatg cgcattatct cgggacagcc gcaaactcaa cagaggttgc 29160

gtgacagaaa gagacgctgt cgctatatca ttacagacca gtttcggcag gaaaactgtc 29220

tggcgttcca acagcgcaag ttgcaactct tcggcagag taaagaatgg agccctagt 29280
```

```
aagtcggcgg ttaaccagtt agccagatca ttgccaaaac agtagagcgt gaagtgcgtt 29340

ccccttccatt gtaactgtaa tatacagttc aaagacgaag gaggctcaga gacggtaagt 29400

tcgagttttc cctcttccca caagtagttt tgttgataat ggctgagccg ttgacgtagc 29460

gacagttcac ttaatttggc ctgtggcaag gttaacaaac tcattcttca gcctcccact 29520

cctcatagac gtggcgtttc tgacgtgact cctgttcact gtcatcgcta gcttgaaaat 29580

caagttgtgt tggctcaatg cgttgtaatc gctcaagaag atcataactt ccctgcgcta 29640

aaattcttaa agcttcccga ctggcgatca gttctacatg cagttttccc ggaatctcag 29700

caatacgaac cataatagcc cccaattcag gtaagttaag gtgtaattgg gttacttggg 29760

atgagccgcc gcgcagttct agttctaccg ctagtcgctg tgctaactgt ataagttgct 29820

ctgagactga tgccagcctg gtcgcgcgca ttgttgctaa taggtgatca cccggcgtga 29880

caaccggtgc tgtaaaagac aaggaataca tctccggcaa ggtttcttcg cgcggaagta 29940

acagtttttc tggtcgcggt ggttcgatgg tatctttgct gctatcaacg ccatcagtaa 30000

gatgttggga ccgatccgcc agctcggtca tgtccagttg ctctgactgc actgtcgctt 30060

tgtacggaaa acgagcagat ttttctgcta cctcagtcac aggagtagca caccatcttg 30120

ctaccaaatg atcatccggt gtggcactaa ctgccggggg acatatctct ggcaatgctt 30180

tttgatgaag agctaacggt tcttctgcaa ggcgtttttg cctgctatcg cgctggtttt 30240

ttgctatact ggccggagtt tccctaccga cagaccatac aataacctct gcgccgtcag 30300

cagccggatt caatggctga acagtcggct tgctattcaa ttgaactggt tgagcggaat 30360

cgataggcga ttgctgaaca ataactcat catgtccaga cggctcgcag ggggattcac 30420

ttgatgtccc cgtttcacaa gtcaccccct ctaaaaggg cgccaatggc atgagagcat 30480

taataatact ctctacgcgg tcatcaaaac ggctatcctg ctggtataag tgcgctctat 30540

tggtagcacc ttcggcaagc ggagataagt tgaaatcatg attattctga tggttgtgtt 30600

gaggttttaa tcctacctct ttccttccgg gttgagacgt cgccgctaat ggcgcatgcg 30660

cacgcaagcc atctcctttc tgaccttctt ttttgccaag gtcatgcgga cgtacaggtt 30720

taagcgactc ttctttggga tgacaattcc ccttattatt atgcaacagc gcttgctcaa 30780

aatcgacaca tgcttgcaaa gcatgatgcg cttccccag aggttgatac tcaggttcta 30840
```

```
atgggaacg agtggtgatt ttattcatta ggcgttcctg tgatgctgta gaaactcttc 30900

ttgttcttgt tcttcctgat aatgttgttg atttagctca tcttcatctt ctcgtcgcac 30960

tagctcgaga aacttatttt ccttatgacg agcctgttgc agcatctttt ggcataacgt 31020

aaggcgctca cgctcattgg ctaaacgttc caataatttg gcgcactcca gttcataatt 31080

ggcctccttt tcacgtagcg acgctatttg tcgctgccat ttctccaaat ctttacaatt 31140

cagtgtggtg ttttttcgct gatcaaatag acgttgctcc tcatcaatac gccacaaatg 31200

gtaatcctga ctggtttgca ccgcctcttg atgacgtcga tgagctgcct gcaagcaagc 31260

ttgctgagtc ttgatggctt tctccgcacg ttcaacgcgt aaaactttaa cccggtgcag 31320

gcggcgtatc attgggtcag cgtctccaat aagttcagcg tctcattgaa atggcttaac 31380

tcgtgcgtcc cctggcagag ccatcctcga atcgccccca tgcgttcaat cgcttgatcg 31440

gcctctttgt cttgcccttt ctggtactcc ccgatttgca acagcaattc cacttcttca 31500

tatttggcca ataaacggcg taagtccccc gcccaggttt tgtgctcctt gctgacaatt 31560

tgattcatca ccctgctcgc tgaacgtaat acgtcaatgg caggataatg attagctgcc 31620

gctaatttcc gtgacagaat aatatgacca tcaagtatcg aacgtgtttc gtcggccacg 31680

ggttcggtca tatcgtcccc ttcgaccagt acggtataga gagccgtaat tgaccctttg 31740

ctggactgac cagccctttc catcaaacgg ggtaaagcgg caaatactga cggaggataa 31800

ccgcggcgag tcggtggttc tcccgcagct aagcctattt cacgctgagc acgagcaaac 31860

cgtgttacag agtccataag taacaatacg cgtttccctt gatcgcgaaa atattcagca 31920

atagatgtcg ccacgaatcc agctttggct ctttccattg agggccgatc cgaggtggcc 31980

accacgagaa ccgctttgcg taaccccctct tcgcctaaat cagactcaat aaactcacgc 32040

acttcgcgtc cacgctcacc aataagcgcc agcacggtta cgtctacttc agcactacga 32100

ataagcgaag caagcagtgt acttttcccc cccccggcgg ccgcgaagat gcccattctt 32160

tgcccctcgc cacaggtaag caaaccgtca ataacccgga tccccaaaga aagtggtgtg 32220

gtaataagtt ttcggctcat cggcgctggg gcatcctgat aaactgggta ccaagccgcc 32280

ggttcaggga gatgcccccc atcgaaaggc tgccctaaac catccaacac ctgtcccagc 32340

agatgttcac ccaccccaac ctgatgcatt gtccctgtcg ggctaacttc agtattagaa 32400
```

```
gatatcccgt acatttcacc aagtggaata agtaatgctt gatgttgggc aaaacctatg 32460

acttcagcct gtaaagacag gctgttgtca gggttacgta agtaacataa ctcaccgatg 32520

cgcacacctg gcactaccgc ttttaataac gttcctgtca cttgagtgac acgtcctcta 32580

atttggatta ggcggctacc tacaatgcca tgacgaatat gatgaggtat ctgatctagt 32640

gagagcataa atccataatg gttgaaatat taaccactat tttagtgact aaaaacgcta 32700

aaaaattgta gcgggagccg cgagtttta gaaaaatagc caagcagcac taaaatttct 32760

cggctgattt tggcatcgat aagcaagaac tattttttata atcgcggtaa ttgtaattat 32820

aaactgttca tctcagggag tagttatgac gacgcttcat aacctatctt atggcaatac 32880

cccgctgcat aatgagcgtc cagagattgc cagtagtcag atcgtaaatc agactctggg 32940

tcaatttcgg ggagaatctg tgcagatagt cagcggcact ctgcagtcta tagctgatat 33000

ggcagaagag gtaacatttg tcttctccga gcgtaaggag ctctccctcg acaaacgcaa 33060

attaagtgac agccaggctc gagttagcga cgttgaggag caggttaatc aataccttag 33120

caaagttcca gagttggaac aaaaacagaa tgtgagtgag ctgctcagtc tgttgagtaa 33180

cagccccaat ataagcttgt cccagttaaa ggcttatctg gaggggaaat cagaagaacc 33240

gagtgagcaa ttcaaaatgc tctgcggctt gcgtgatgcc ctgaaagggc gccctgaatt 33300

agcacatctt tcgcatttgg ttgaacaagc tctggtcagc atggctgaag agcaaggaga 33360

aaccattgta ttgggtgcca ggataacccc ggaagcgtac agagaatccc agtcgggtgt 33420

taatccactg cagccgctcc gtgataccta ccgcgatgca gtgatggggtt atcaaggaat 33480

ttatgcgatc tggagtgatt tacaaaaacg ttttcctaat ggggatatag actcggtgat 33540

attattcctg caaaaggcgc ttagtgcaga tctacaaagt caacaaagcg ggtctggacg 33600

ggaaaaatta ggaatagtta ttagtgactt acagaagcta aaggagtttg gtagcgtgag 33660

tgaccaagtt aaaggatttt ggcaattttt ttcagagggt aaaactaatg gcgtacgacc 33720

tttctgagtt tatgggagat attgtcgcac tggttgacaa gcgctgggcg gggattcatg 33780

acattgaaca tcttgccaac gcctttccc ttcctacgcc tgaaatcaaa gtgcgtttct 33840

atcaagattt aaaaagaatg tttcgtcttt tccctctggg ggtatttagc gatgaggagc 33900

aacggcaaaa tttattgcaa atgtgtcaaa atgcgatcga tatggctatt gagagtgaag 33960
```

```
        aggaagaatt gagtgagttg gattgaaccc atcatttccc atttctgcca ggatctggga 34020

        gtgccaacat ctagccccct ttcgcctctt attcaattag agatggctca atctggcacg 34080

        ctgcaactgg aacaacatgg tgcgacactg acattgtggt tagcgcgttc tcttgcctgg 34140

        caccggtgcg aagatgctat ggtcaaagcg ctaacgctca cggcggccca aaagagtggc 34200

 5      gctttaccgc tgcgagcggg gtggttaggg gaaagtcagc tggtgttatt tgtctcgctt 34260

        gatgagcgtt ccttaacctt gcccctttta catcaagctt tcgaacagtt actgcgattg 34320

        cagcaagagg tgcttgcgcc gtgagtcgca taataactgc cccccatatt ggcatcgaaa 34380

        aactgtcggc gattagcctg gaagagctat cctgtggctt gcctgaacgt tatgccttgc 34440

        cgcctgatgg gcatccagtc gaaccacatt tagagcgcct ttaccctaca gcacaaagca 34500

10      agcgtagcct atgggacttt gcttctcccg gctatacatt tcatggatta catcgagctc 34560

        aagattatcg gcgcgaactg gataccttgc agtcactgct aaccaccagt cagtcctcag 34620

        agctacaagc tgccgcggcg ctgcttaaat gccaacaaga tgatgatcgg ttactgcaaa 34680

        taatccttaa cctgttgcac aaagtatgaa tattacttta accaaacgac aacaggagtt 34740

        cttgctgctc aacggttggt tacaactaca atgtggccat gcagagcgcg catgtattct 34800

15      attggacgcc ttgctgacgt taaatcctga gcatttagcc ggtcggcgtt gccgattagt 34860

        cgcgctactt aataataacc agggagaacg tgccgaaaaa gaagcgcaat ggctaatatc 34920

        acatgaccct ttacaggctg ggaattggct ctgtttgagc cgcgcccaac aactgaacgg 34980

        cgatcttgat aaggctcgcc atgcttatca acattatttg gagttgaaag atcataatga 35040

        atccccatga tcttgagtgg ctaaatcgta ttggcgagcg taaagatatc atgctggcag 35100

20      tgctgctgtt agctgtggta ttcatgatgg tcttaccact cccccccctt gtgttggaca 35160

        ttctgattgc tgttaacatg accatttcag tggtgttgtt aatgatagcg atctatatca 35220

        actctccttt acaattttca gctttccctg cggtgctact cgttaccacg ttatttcgtc 35280

        tcgcactttc agttagcacc acccgcatga tcctgctaca agctgatgcg gggcagattg 35340

        tttacacctt tggtaatttc gtcgttggcg gtaacctcat cgtcgggatt gtcatcttcc 35400

25      tgatcatcac tattgtgcaa tttttagtga taacgaaagg ctcagaacgt gtagcagaag 35460

        ttagtgccag attctctctt gatgcgatgc cgggtaaaca gatgagtatc gatggcgata 35520
```

```
     tgcgagccgg ggtgatcgat gtcaatgaag cgcgtgagcg acgcgcgacg atagaaaaag 35580

     aaagccaaat gttcggttct atggacggcg ccatgaagtt cgtcaaaggg gatgcaatag 35640

     ccggcctcat tattatcttt gtcaatatat taggcggcgt caccattggt gttacccaaa 35700

     aaggattagc ggccgctgag gcactgcaac tctattccat cctcactgtc ggggatggga 35760

5    tggtttctca ggtacctgcc ctgctgatag ctattaccgc gggtattatc gtcacccgcg 35820

     tctcttcaga agattcatca gatctgggta gcgatattgg caaacaggtt gtcgctcagc 35880

     ctaaagccat gctaattggt ggcgtactgc tgttgctctt tggtcttatc cccggcttcc 35940

     caacagtcac ctttctgatt ttggcgctat tggtaggctg tggtggttat atgctcagcc 36000

     gtaagcagag tcgtaatgac gaggctaatc aagacctgca atccatactg acgagcggtt 36060

10   ctggcgcccc ggctgctcga accaaagcca aaacaagtgg ggcaaacaag gccgactag 36120

     gggaacaaga agcatttgct atgacggttc ccttgctgat tgatgtagat tcaagccaac 36180

     aggaagcact ggaagcgata gcactaaatg atgagctggt tcgagtgcgc cgtgctcttt 36240

     atcttgatct tggcgtacct ttccctggga tccatctgcg ttttaatgag gggatgggtg 36300

     aaggcgaata tattatttcc ttgcaagaag ttccagtggc gcgaggtgag cttaaggcag 36360

15   gttatttact cgtgcgtgaa tccgtcagcc aactcgaatt actgggtata ccctatgaaa 36420

     aaggggaaca tttgctaccc gatcaggaag ctttctgggt atcggttgaa tatgaggagc 36480

     gcctggaaaa gtctcaactg gaatttttct ctcattccca agttctaacc tggcatcttt 36540

     ctcatgtcct acgtgaatat gccgaagatt tcattggtat ccaagaaacc cgctatctgc 36600

     tcgaacagat ggaaggaggc tatggcgaat taattaaaga agtacaaaga atcgttccct 36660

20   tacaacgaat gaccgaaata ttacaacgat tagttggaga agatatttct atccgtaata 36720

     tgcgatctat tcttgaagct atggtggaat ggggacaaaa agagaaagac gtcgttcaac 36780

     tcacagaata tatccgcagt agtctaaaac gttatatctg ctacaaatac gctaatggca 36840

     acaatatatt gccggcttat cttttcgatc aagaagtaga agaaaaaatt cgtagcggtg 36900

     tgcgccaaac cagtgcaggg agttatttgg cattggagcc tgctgttacc gagagtttac 36960

25   ttgaacaagt tcgcaagact attggcgatc tatcgcaaat ccagagtaaa ccggtgctga 37020

     ttgtttctat ggatattcgt cgctatgtgc gcaaactgat tgagagcgaa tactatggct 37080
```

```
     tgccggtact ttcataccaa gagctgactc agcagattaa tatccaacca cttggacgaa 37140

     tttgcttatg atggcagatc ctttaattcc gtggcttacc gaacatggct tggtttgcca 37200

     ccctcatact ttgtctggca cccccatttc tttaggttcg gcctttcaat tagctggcct 37260

     caagcttgcc tggcgcgtag aaattgaaca aaggcgggtt tggatcgtgc ttatccaacg 37320

5    agtggaacaa cgtcgagggc tgaaaaatcc cttcgcggca ctttatatgt tagctaatgc 37380

     agcgcgggcc gttcttggcc ctgactatta tctgtatggc aatgtcgatg tactggcggg 37440

     gagttctctc agtacgcaac ggctcgctca tttttatcgg cgttggaccg gggccaaaga 37500

     attaagcacc gggtggttct cactaaaagt atcacaagtc atcaccttat ctaatatgaa 37560

     aaagcgacaa aacaacggct ttgcctgaca agctaaataa aaataacgta atagaatagg 37620

10   aggtagatta tgaagtcttc ccattttgat gaatatgaca aaacgcttaa acaggcagaa 37680

     ctggcaatag ccgacagcga tcaccgcgca aaattattgc aagaaatgtg tgctgatatc 37740

     ggcttaacgc ctgaagccgt aatgaagata tttgcgggcc gttccgccga agagataaag 37800

     ccagcggagc gcgagttgct tgatgaaatt aagcgtcaga gggagaggca gcctcaacat 37860

     ccctacgatg ggaagagacc aagaaaacca acgatgatgc gagggcaaat tatttaatat 37920

15   gattagagcc tacgaacaaa acccacaaca ttttattgag gatctagaaa aagttagggt 37980

     ggaacaactt actggtcatg gttcttcagt tttagaagaa ttggttcagt tagtcaaaga 38040

     taaaaatata gatatttcca ttaaatatga tcccagaaaa gattcggagg tttttgccaa 38100

     tagagtaatt actgatgata tcgaattgct caagaaaatc ctagcttatt ttctacccga 38160

     ggatgccatt cttaaaggcg gtcattatga caaccaactg caaaatggca tcaagcgagt 38220

20   aaaagagttc cttgaatcat cgccgaatac acaatgggaa ttgcgggcgt tcatggcagt 38280

     aatgcatttc tctttaaccg ccgatcgtat cgatgatgat attttgaaag tgattgttga 38340

     ttcaatgaat catcatggtg atgcccgtag caagttgcgt gaagaattag ctgagcttac 38400

     cgccgaatta aagatttatt cagttattca agccgaaatt aataagcatc tgtctagtag 38460

     tggcaccata aatatccatg ataaatccat taatctcatg gataaaaatt tatatggtta 38520

25   tacagatgaa gagattttta aagccagcgc agagtacaaa attctcgaga aaatgcctca 38580

     aaccaccatt caggtggatg ggagcgagaa aaaaatagtc tcgataaagg actttcttgg 38640
```

```
     aagtgagaat aaaagaaccg gggcgttggg taatctgaaa aactcatact cttataataa 38700

     agataataat gaattatctc actttgccac cacctgctcg gataagtcca ggccgctcaa 38760

     cgacttggtt agccaaaaaa caactcagct gtctgatatt acatcacgtt ttaattcagc 38820

     tattgaagca ctgaaccgtt tcattcagaa atatgattca gtgatgcaac gtctgctaga 38880

5    tgacacgtct ggtaaatgac acgaggtaat tatgcaacaa gagacgacag acactcaaga 38940

     ataccagctg gcaatggaat ccttcctaaa aggaggggga actatcgcca tgctcaacga 39000

     aatttcaagt gacactttag agcaactcta ctctcttgca tttaaccaat accagtcagg 39060

     aaaatacgag gatgctcaca aggtctttca agctctctgt gtgctagacc actatgattc 39120

     acgtttcttt ttagggctag gcgcttgtcg tcaagccatg gggcaatacg acttagcgat 39180

10   tcatagctac agctatggcg ccataatgga tataaaagaa cctcgttttc cgtttcatgc 39240

     ggccgaatgt ttactgcaaa agggagagct tgctgaagca gaaagtggct tgttcttggc 39300

     tcaagagctt atcgcagaca aaactgagtt taaggagctt ccacccgag ttagctcaat 39360

     gttagaagca attaaattga aaaaggagat ggaacatgag tgcgttgata acccatgacc 39420

     gctcaacgcc agtaactgga agtctacttc cctacgtcga gacaccagcg cccgcccccc 39480

15   ttcagaccca acaagtcgcg ggagaactga aggataaaaa tggcggggtg agttctcagg 39540

     gcgtacagct ccctgcacca ctagcagtgg ttgccagcca agttactgaa ggacaacagc 39600

     aagaagtcac taaattattg gagtcggtca cccgcggcgc ggcaggatct caactgatat 39660

     caaattatgt ttcagtgcta acgaagttta cgcttgcttc acctgataca tttgagattg 39720

     agttaggtaa gctagtttct aatttagaag aagtacgcaa agacataaaa atcgctgata 39780

20   ttcagcgtct tcatgaacaa aacatgaaga aaattgaaga gaatcaagag aaaatcaaag 39840

     aaacagaaga gaatgccaag caagtcaaga atccggcat cgcatcaaag atttttggct 39900

     ggctcagcgc catagcctca gtgattgtcg gtgccatcat ggtggcctca ggggtaggag 39960

     ccgttgccgg tgcaatgatg gttgcctcag gcgtaattgg gatggcgaat atggcagtga 40020

     aacaagcggc ggaagatggc ctgatatccc aagaggcaat gaaaatatta gggccgatac 40080

25   tcactgcgat tgaagtcgca ttgactgtag tttcaaccgt aatgaccttt ggcggttcgg 40140

     cactaaaatg cctggctaat attggcgcaa aactcggtgc taacaccgca agtcttgtgg 40200
```

```
ctaaaggagc cgagttttcg gccaaagttg cccaaatttc gacaggcata tcaaacactg 40260

tcgggagtgc agtgactaaa ttaggggggca gttttgctgg tttaacaatg agccatgcaa 40320

tccgtacagg atcacaggca acacaagtcg ccgttggtgt gggcagcgga ataactcaga 40380

ccatcaataa taaaaagcaa gctgatttac aacataataa cgctgatttg gccttgaaca 40440

aggcagacat ggcagcgtta caaagtatta ttgaccgact caaagaagag ttatcccatt 40500

tgtcagagtc acatcaacaa gtgatggaac tgattttcca gatgattaat gcaaaaggtg 40560

acatgctgca taatttggcc ggcagacccc atactgttta agtttaagga ggaataacca 40620

tgacaataaa tatcaagaca gacagcccaa ttatcacgac cggttcacag cttgatgcca 40680

tcactacaga gacagtcaag caaagcggtg agattaaaaa aacagaagac acccgtcatg 40740

aagcacaagc aataaagagt agcgaggcaa gcttatctcg gtcacaggtg ccagaattga 40800

tcaaaccgag ccagggaatc aatgttgcat tactgagtaa aagccagggt gatcttaatg 40860

gtactttaag tatcttgttg ttgctgttgg aactggcacg taaagcgcga gaaatgggtt 40920

tgcaacaaag ggatatagaa aataaagcta ctattactgc ccaaaaggag caggtagcgg 40980

agatggtcag cggtgcaaaa ctgatgatcg ccatggcggt ggtgtctggc atcatggctg 41040

ctacttctac ggttgctagt gctttttcta tagcgaaaga ggtgaaaata gttaaacagg 41100

aacaaattct aaacagtaat attgctggcc gcgaacaact tattgataca aaaatgcagc 41160

aaatgagtaa cattggtgat aaagcggtaa gcagagagga tatcgggaga atatggaaac 41220

cagagcaggt agcggatcaa aataagctgg cattattgga taaagaattc agaatgaccg 41280

actcaaaagc caatgcgttt aatgccgcaa cgcagccgtt aggacaaatg gcaaacagtg 41340

cgattcaagt tcatcaaggg tattctcaag ccgaggtcaa agagaaagaa gtcaatgcaa 41400

gtattgctgc caacgagaag caaaaagccg aagaggcgat gaactataat gataacttta 41460

tgaaagatgt cctgcgcttg attgaacaat atgttagcag tcatactcac gccatgaaag 41520

ccgcttttgg tgttgtctga ccattgatga ccttggttag ttaattaacc gaaagtttta 41580

ttttacctta cccccttatgg tgatagagct tatctatata aggtataagg tgctgaaaag 41640

ccctgtatta acattagtta atccagggtt gtgattatta aattaaaaat aataagttag 41700

gatcatatga caattaaaat aaaagattat ttacatgtag tagctcaaga cctgagctga 41760
```

```
       cagttaccgg ttgttgaacg gcaatacgcg gtcattgagc acgtcagcgg ctgtgatcgg  41820

       cattttgctc gtatacagcg agagtgttag aaatgctgtg tcattccagt aatatgcaat  41880

       caaaaaagaa tgacacatat cccaataatg agagtcggtg attttactca ttgatggggg  41940

       ggaataatta ggctaaaaca acctcaatgt taaagagccg aggtgttcgg taagctctgc  42000

5      atttaacgct gtttcgacgg taagctttgt tagcatacga gaaaatgcat taaggtcggc  42060

       ttcggtttta agacctttag ccagttcagc cgcaagtgct ttaagtttct tttcgtccat  42120

       aatttgcctg tctccgttgt tggagtgaag atatcaaaaa caggcaatta cacaatattg  42180

       tttacagtct cgattcataa aggtagatcc ttcccgcact caatattcag gttcgtcacg  42240

       gcgtaaccaa atatcaaatt gacctttatt cagtcgttgc aatgtttcaa atccctgaag  42300

10     cgttgaccag gcacggtttg gccgtttgaa atccccggcc gcgtttacca attttttgat  42360

       gggggcatgg tcagactcga tacgattatt caggtatttg acttgccgct gctttgcagc  42420

       atcccgtatc ttttccttct ttcatcaaac gagtgatagc gtaaccgtat gacgaatgtt  42480

       tatcggtatt gagtatttta ggctgtcttt caacagaata gggtttttaac acccgtttaa  42540

       tgaatggata ggcggtattt ttatttcgtt taggcgaaaa ataaaaatct aatgtagtgc  42600

15     cgtgcttatt gatggcgcga tagagataaa accattttcc gttgaccctg atatagattt  42660

       catcgagttg ccatgaggag tcggcatccg taaattgata tcgtttcaat ttctgacgag  42720

       gtataggtgc atattcaata aactaacggt aaatggtaga gcgataaacg gaaatcccac  42780

       gctctgacag catatcgctg acattggcat aactcatcgg gggcaaaatg ttcccacttg  42840

       aaatcacctg gggccatgtg gattcactga agaagggatg aatagcctca gttttcatga  42900

20     caactccatt ttttgcaaca agcccaaata tagtgatgct gaagtggcac aaacgctgga  42960

       taccgcgcaa aagcacaccc tgacggtttc aaaagggta ctggatacgg ccaaacagta  43020

       tactaacacc gtcagcagta atacattgga cagtgccaat acctatacca ataataaagc  43080

       agactaacat tgaaggatgc taataattat actgttcaga aggtaaacag agatgctata  43140

       agtggtgtta tagatcagga attatattga gaaaccattg aagaaactaa agagcaaatg  43200

25     gccggtattg aaactactgc cccaaaatac actgatttaa agtttaatga tatttccggt  43260

       aaggttgact ctgcggccat acaatacttc tgacatattt cttctggtta tttatgcata  43320
```

```
        aaaatggcca aaaactttca atggtagaag agctaaattc ggataaataa cgcataaaaa 43380

        ttcccggcga aaaactatat acatatataa atttaatatg tatgtttttg tttgcagtga 43440

        aaaactcgat aataaaaata ttttcagaaa ggcattcaat atgttcataa atccaagaaa 43500

        tgtatctaat acttttttgc aagaaccatt acgtcattct tctaatttaa ctgagatgcc 43560

5       ggttgaggca gaaaatgtta aatctaagac tgaatattat aatgcatggt cggaatggga 43620

        acgaaatgcc cctccgggga atggtgaaca gagggaaatg gcggtttcaa ggttacgaga 43680

        ttgcctggac cgacaagccc atgagctaga actaaataat ctggggctga gttctttgcc 43740

        ggaattacct ccgcatttag agagtttagt ggcgtcatgt aattctctta cagaattacc 43800

        ggaattaccg cagagcctga aatcacttct agttgataat aacaatctga aggcattatc 43860

10      cgatttacca cctttactgg aatatttagg tgtctctaat aatcagctgg aaaaattgcc 43920

        agagttgcaa aactcgtcct tcttgaaaat tattgatgtt gataacaatt cactgaaaaa 43980

        actacctgat ttacctcctt cactggagtt tattgctgct ggtaataatc agctggaaga 44040

        attgccagag ttgcaaaact tgcccttctt gactgcgatt tatgctgata acaattcact 44100

        gaaaaaacta cctgatttac ctctttcact ggaatctatt gttgctggta ataatattct 44160

15      ggaagaattg ccagagttgc aaaacttgcc cttcttgact acgatttatg ctgataacaa 44220

        tttactgaaa acattacccg atttaccccc ttccctggaa gcacttaatg tcagagataa 44280

        ttatttaact gatctgccag aattaccgca gagtttaacc ttcttagatg tttctgaaaa 44340

        tattttttct ggattatcgg aattgccacc aaacttgtat tatctcaatg catccagcaa 44400

        tgaaataaga tccttatgcg atttaccccc ttcactggaa gaacttaatg tcagtaataa 44460

20      taagttgatc gaactgccag cgttacctcc acgcttagaa cgtttaatcg cttcatttaa 44520

        tcatcttgct gaagtacctg aattgccgca aaacctgaaa cagctccacg tagagtacaa 44580

        ccctctgaga gagtttcccg atatacctga gtcagtggaa gatcttcgga tgaactctga 44640

        acgtgtagtt gatccatatg aatttgctca tgagactaca gacaaacttg aagatgatgt 44700

        atttgagtag tacgcaagag cgttcataat tctgcgtcac gttaaaatat cattacaacg 44760

25      taatcacttt atcgaggcga ccttcaaaat aaatcgccaa ctgtgacaat gccaaattcc 44820

        agctctggat tggcattgtc catctttcct gcgcattcat taatcccaga tacagtgatt 44880
```

```
      tcaacagact gttctcatta gggaaaatgc ctttcgtttt tgtcagcttt ctgaacagcc 44940

      gatgtaccga ttcaatggca tttgtcatgt aaatgacctt gcggatcgtt gtcggatacc 45000

      ggaagtaaca cgacaaattg gcccattttt tccgccacga ctggagtacc actggatatt 45060

      gttggcccca ttaccagttg aggctcaaaa gttccattgc gatcacgggg cgtggcgagt 45120

5     tcaaacgtac cagtgggagt tttgaccgtt tttctggacg aaccattttt gcggttggct 45180

      tcgatgtcca gagccagatg agtctgacca tgcccccatc aaaaaattgg taaacgcggc 45240

      cggggatttc aaacggccaa accgtgcctg gtcaacgctt cagggatttg aaacattgcg 45300

      acgactgaat aaaggtcaat ttgatatttg gttacgccgt gacgaacctg aatatcgagt 45360

      gcgggaagga tctaccttta tgaatcggct ctttaacatt gaggttgttt tagcctaatt 45420

10    attccccccc atcaatgagt aaaataccga ctctcattat ttgcagcaaa cctatatatt 45480

      gcgctgaatc atagatcacc catcataact ggggataaaa ccacttaata tgttgtaacc 45540

      ccacggtttc atatgagtat tctccgatta catatatgtt agttgccatg gataatccgt 45600

      aatgttaaat agagttattt tctgtgtcac aatcataaat aacacaattg ttctttcaga 45660

      actcaacatt ttaatatact gtagcaatgg tatcaatagt catacttatt aaaatgatat 45720

15    tttcctcaca gttaattaca cagcgtgaag taatgatatg gtgtttattt tgttattaaa 45780

      tgtcgtatct tgtttaatgg ttttatttat gtgtttaact gatttcaatg taaaaaatat 45840

      tttttacatt tagtaagtca tgtcaatgat atttgataaa gataattact gcttaattga 45900

      tggatatttt ttgtttttttt aatcaacggt ggcgtcgcta tcgtcttaac gttcacagaa 45960

      gatatcattc tgcatagctc cgccagcatc caggcaagca tctactgtca gaaagtgctc 46020

20    aactttcata ccagcataaa aagcagcgca caatgcggtg gctatcacta gtcgttttt 46080

      cattgcatag tcctcgtagg ttagattatg ccccatgagc tgagaagagt gagctatcgt 46140

      tgtcttgagc tttctgtccg gggtatcatc gaattttact ttatttacat agaatttata 46200

      ttctatcata ccataattaa actttacttg aataaaaaca tcggtgtgct gaccatattc 46260

      ctgatatgaa tataataata tagccttaat gctcatggta ataaagtgcc ctacagcaat 46320

25    ttcggcgggt ttgctgcaaa taatgagagt cgtgatttta ctcattgatg gggggggaat 46380

      aattaggcta aaacaacctc aatgttaaag agccgattca taaaggtaga tccttcccgc 46440
```

```
actcgatatt taggttcgtc acggcgtaac caaatatcaa attgaccttt attcagtcgt 46500

cgcaatgttt aaaatccctg aagcgttgac caggcacggt ttggccgttt gaaatccccg 46560

gccgcgttta ccaattttt gatgggggca tggtcagact caatacgatt attcaggtat 46620

ttgacttgcc gctgctttgc agcatcccgt atcttttcct tctttcagtt ttcatgacaa 46680

ctccattttt tgcaacaagc ccatagtggg gacaatgaac attaacgccg atcatgagaa 46740

aaacttaaaa gtgagcatta tatataaat tcaactaatt ggaggaatca ccgaaatact 46800

taatggtggg gttattaact gggggatatt taacttggta ggatatttca aatcgtctat 46860

atcactaata aaaataataa ttattgataa cactaatttg gtcatgttat atgtaaaaat 46920

ttggataaat aatgaaaact tcttaattta tagtgaatta aaaacaaatg agttattata 46980

taaaccatat ctattaaatt taatagatat tattgtaact atgtagtgaa ataactttgt 47040

atggtaccgc gtatatgatt gtttacattt cagatgaata atatgggtga tgtcgagttg 47100

ggctgaaact tagtattttg cggttctttt ctctgctcaa tatcatcaat gaaacgttct 47160

aaccaagcct gcatttcatc gatatccaac cctaccagtg attgttgaga ccagagaata 47220

ggtttaccgt ccagtcttcc ttgaacatgg gcaggccaat gttcgccaaa caaattatcg 47280

ttggttggca aatcagcacc tagctcactg aacaactgta cccattgttg atgataacaa 47340

gcaatcagta cttggatgtg cccatccact tcaaatgtaa atgtataaac gtcattttca 47400

ttaacttgat ggttcaagcc aagcttcagg aaaagctgtt gcataagttc tgtgaaggtt 47460

gtctgcatta aacctccttg gagtcaaatg ttaacactct aaaacgctgc cccacccca 47520

gaggataatg atacatagaa ttaccccaga atgagttagt aaaccatttg cggaactttt 47580

ccttatcaga aaagtggaat tcaccgaaat tgggatcgaa gaaagtaaca ccactctttt 47640

cgttgacata cgccgctatg gcgtgggctg acatttggcc tgagagatgt attttttat 47700

aaccgtaacc tatcccatga gtatcaagga tagcgtttaa taattgatcc agcccttctg 47760

attccgtcgt accagtaaca tcaactggac gcagtaagca atgccgttca atcatacgtt 47820

ctgatatgcc atttttcttg aaccaatcta gtgttacctc atcttgatca acgtctgctt 47880

tacaaccatc tatttgcaac tgtttaattg agtaaagtgt atcgatctgg aatttcccct 47940

tacgcccgcc aacatagagc tggtcaaata agctttggcc ttgtgcatgg ctcctgatcc 48000
```

```
       aatgtgcaca taaagcctca cagacaccgc tagcagtgtc tgaatgtttt attattttat 48060

       gaagaaaagc ccctttggtc tgagcaaact tgaaattgat gttacctccg taatttgcaa 48120

       cagactctct caccgcgggc acacgagtgc tgagtacaaa atgtatcatg cgatacataa 48180

       tcatactgaa ggtaaagctg ctgcgttggt tagctttgcc gtcgctggtc aactttctat 48240

5      ccagcataga acggcctgac tggttatgtt ttatggtggc tgataacttt ttctgcaggt 48300

       ttgagtgtga cagtgctgtt tccactttca ctcggtgtgc gccaatcacc ccttcggtga 48360

       gggtagctga ttgaaggttt tcaccggcag aataattcga tagttgaata tggtagtgtc 48420

       cgtgaatact gttcatctgt ataacctatt tatgttagcc attattttgc tataccgata 48480

       aattgaatat atctggattt tgacgtctgg caatgaacga tagagcctac aataaattat 48540

10     aaccaatagg tgactcaggg attttctctg aatcagagta catgttgtac attcgattaa 48600

       atatttttc aatagttaaa agttactttt tattataaaa attcaactta tggggacagt 48660

       gatgttatgt tgatagcgtc ggggcgtcgc ggggagagtt tataataaac tctaatgtga 48720

       taaaaatcca ttctaataat gatatattat actatatctg tagctttaaa ataaataatt 48780

       atagagtgga ggatgcttga aatatttcga tgcatgggaa gctcattgag agtagatatt 48840

15     ctatttttat aaattacgga gtgattttaa ttatacactc gtagtgacgg ttattaaata 48900

       gtgtagttta taaagtaaat ttgggagtag taactatgtt tattaaagat acttataaca 48960

       tgcgtgcttt atgtaccgct cttgaacagt cggctcctga tacaataata aatacatcta 49020

       aagaagaaaa taacagttac tactgcgcta ctgctcattt actgagaacg gatgtttgtt 49080

       cattggtcaa tagagtaggg attgaaccac ttaaaagtgg atcaatatta tctactttag 49140

20     aagagttatg gcaggctgtt ggtatagtat atcgcttata cgaatggcaa catgtcagcg 49200

       atattgacac caattttaag aaactaccca ataattctga ttttggtctt gtgttttctg 49260

       tattagattg tgatatagag tatgtgttca tagggaaaaa agacagtgaa gggaatatag 49320

       aatttatga tccgaaaaac tctctactta tagagaatga tgacataaaa aaatatttat 49380

       atgatgaaga ttttcatcgt ttttgtatta tgctgatcat ctctaaatct gagttggagg 49440

25     aattgagtcg cgaatcctgc gatcaagaat gtattatggg atgaagctat attaaagagt 49500

       ttgggatatg gtagttgatt atgttaaagg ttaattatct gtaacatata aaaacagtg 49560
```

```
gtatgtaatc atcctgcata atcgtaccat tcatatttag agatcttccg gcatactgac 49620

cttgccaatg aaggagatcg ctaaacgggt acaccgtatc tattgcctcc tgaaactcaa 49680

tattcgccgc aaagggaaac aacgcctgcc agcctgtaac ccatcaccgc tggcggtacc 49740

ggaacgactt aacctgagcg ggtcggtcga ttttatgcac aatgcacaat gcacaatgca 49800

ctgagcggtg ggtgtcattt cagtacgtta taatgtcatg gatgattaca atcgtgaagc 49860

actggcgatt gtaatcgatc tgaacctgcc aacacagcgc cgtcatcaga gtactggatc 49920

gcattgtggt caaccgtggc tatgggaggt gccatgccct gttttaaatg gaagatgata 49980

tgaagaaaaa catgaagtta atagcaatga ctgccgtact gtcctcagta ttagtcctct 50040

ccggctgtgg tgcgatgagc acagcaatca aaaaaacgta atctggaagt gaaaacgcag 50100

atgagtgaaa cgatctggtt agagccgtct tcacagaaaa ccgtttatct acagataaaa 50160

aatatctcag ataaaaatat gcttggctta gcccccccaaa tcacaaaagc tgtgcaggat 50220

aaggggtata ccgtaacatc ttccccagaa gatgcacatt actggatcca ggctaatgtc 50280

ctgaaagccg ataaaatgga tttgcgtgaa gctgaaggat ttctgagtca ggggtatcag 50340

ggtgctgcgc tggggggccgc attaggggct ggtattacag ctacaactc taactcagcg 50400

ggagccacgt taggaattgg attggcggct ggtcttgttg ggatggccgc gaatgcgatg 50460

gtcgaggaca tcaattatac tatggtgacg gatgtccaga tttccgagaa aacggacacc 50520

accctacaga ctgacaatgt ggcggcgctg aagcaaggca cctctggcta taaagttcag 50580

accagcacac agacgggcaa caaacatcaa taccagactc gcgtggtttc ttcggctaac 50640

aaggtcaacc tgaaatttga agaagcccgg ccggttctgg aagaccagct agcgaagtct 50700

atcgctaata tcctgtaagc cataagcatc ctggtatgaa gatgtactgg gatgtagtgg 50760

atcagtaata ctggacacct caatagcctg ttaatttaat gacagccaat tgaggtaatt 50820

gataatgact caacctaaac agaccaaacg ccgttttct cctgaattca aactggaagc 50880

tattgagcag gtcgttaagt atcagcggtc aaccatcgag gttgcacgcg ctctggagct 50940

ggatcccagc caattgcgta aatggatacg ccagtacaaa gaagaagtca gcgggatgac 51000

gccggacaat cctgcactga caccagagca acgtgaaatc cagtcgctca gggcgcagat 51060

taaacggctg gaaatggaaa aagaaatact aaagcaggca gctgtgttga tgagcgagtt 51120
```

```
ccccatcaaa  tctttgcgtt  aacacggctg  aaaacaaaat  ggccagtggt  cgaattgtgc  51180

cgcctgctca  aaataacgcg  cagtgtttac  tctgcttcgc  tgaattttcg  ggttgatgta  51240

aaacgtctgc  aactgcgtga  attgcatcaa  cagagccggg  gagcagccgg  cagcagaaca  51300

ctgagtctgc  tgatgcgtca  gtcgggttat  aacgtggtgc  gctggctggc  ccgcaggctg  51360

atgcgggaat  gtggtctggc  gagtcgccaa  cccggaaaac  ctcgttaccg  tggcgaacgg  51420

gaggtgtcac  tggcatcgcc  agatttactg  aaaaggcagt  ttaagccgtc  ggagcccaat  51480

cgtgtgtgga  gtggatatat  cagctatatc  aaagtcaatg  gtggctggtg  ctacctggca  51540

ctggtgattg  acctttactc  ccgtcggata  gtgggcagtg  ccatatcgtc  atccccggat  51600

gctgagctgg  tgtgtcgagc  ctagcgtaat  gcactggaga  cgcgcccaag  ggaaaagagg  51660

ctgctgtttc  attcggatca  gggagggcag  tacaggagta  agaaatccag  gcagttactg  51720

tggaggaccg  gagtgatgca  gagtatgagc  cgcaggggta  actgcctgga  taactcacca  51780

atggaaagag  tgttccgaag  cctgaaaagt  gaatggctgc  ttgtaggggg  ctatatggat  51840

gtccatcatg  cggtacgaga  tatcggtgaa  tggatacaaa  gttattacaa  cacccccca  51900

tcggcacaat  ggtggattac  cgccctgtga  atacgaagag  cggtggaaaa  aggctacgaa  51960

ggtgtcctga  ttttgtgatc  cactacacta  cattcaggag  agttggacca  gaaatcaggt  52020

aataaggtcc  ggtccactcg  ccttcaaatt  caacatgtaa  ttcattgtca  aacagtcccc  52080

agagcagtaa  aacagagatc  cggttcaacc  tcatacgccg  tgccctcggc  catgatgcgg  52140

gcaatcgata  cccactttgc  ggcgttcagg  ctcttgggca  aagcgacaga  actgctccca  52200

gttgcacgta  tcgcggatcc  cctcggggga  acatttgtca  gccagtcttc  ctggctagaa  52260

tgtgtttaga  ttatccgtgg  tgattcagtg  gttgcacggt  atcaagcaaa  aaccaaggac  52320

actcttagtt  tgaaaaggca  ggtaatatac  agcttcagtt  aacccatttt  actgactgat  52380

atttatcgtt  ttttgtagca  agacgagtgt  tttcgattat  gtacgtatag  gataaatttt  52440

tagtacctat  atattggcat  gccctgctgt  taccgacgag  caaaaagaaa  ggtcatctac  52500

agcagattag  gtaactgtca  aacttggggt  atttcccata  gtcgtcatat  agacggaaat  52560

gtgaacgtgc  ccagttcggc  attgaggctc  ttacgcttca  tcgcgatgct  tggtcactgg  52620

ctgcggcgaa  cgttgatatt  ctatttatat  atctttgcgt  tatttgggtt  gttttgcgta  52680
```

```
ttttttgatg tttactata aagacgcaaa tttcatagag ataatacata tggacctaaa 52740

gtcaactctt gaccgctgta ttgaacgtgg acagttcatg actcaagaaa ttgctaaatc 52800

acaattcggt aatgacagtc cggctgctcg aacgattact agacgctggc gtattactga 52860

agctgctgaa cttgtcggag taacaccaca aacgatccgt aactatgaag actcaggcaa 52920

actgccaccg cctgatacag caatgattgg tcgtgttgag caacgaactg gatattccat 52980

ccagcaaatt aatgatatgc gtgatgtgtt taaaacaaga ctatccaaac caaaaggcga 53040

aaatcctgtt gttcttgcca ttgcagctca taaaggtggt gcatacaaga catcgacatc 53100

tgttcatatt gctcaatgga tggcgttaca agggttacgg gttttgttga ttgatgcgac 53160

tgatcctcaa gctacggcct ctttatatca tggctatgtt cccgatctgc atatacatga 53220

agaagatact ttgttgcctt attatcttgg tcaacgagat gatgctgctt atgcgataaa 53280

accgacttgc tggccaaatc ttgaagtcat tccttcttgt ctggcagtgc atcgtattga 53340

gtcggaaatt tatggcttgc atgatcaggg gaaattacct gtagcccctc atcttttatt 53400

acgtgctgct attgagtcag tctgggatag ttatgatgtt gtggtgttag atagtgcacc 53460

aaacttaggt attgggacta ttaatgtcgt gtgcgctgct gatgtcatcg tagtgcctac 53520

tccggcggag ctttatgact atgtttccac gttgcaattt ttcaccatgc ttagggattt 53580

gatgtcaaat attgatctca acggttttga acctgatgtg cgcgttttaa ttactaaatt 53640

tagtaatgcg atcggtagtc agtctcagtg gatggacgat cagataagga atgcatgggg 53700

tggaatggtg ttgaaagaag ttgttcgcgt gactgacgaa gtggggaaag gccaagtacg 53760

aatgcgtact gtatttgaac aggcagctaa ccagcgttca acgccagctg cttggcgtaa 53820

cgctgtttcg atttgggagc ctgtttgtgc agaaatattc aatcggctgg ttaagcctcg 53880

ttgggagaat gcatgatgaa aaggtcacca gtgttacgta atgcgccttc aattaatttt 53940

gatgatgcta aacccgcaat cagcaatgca gagccctcgg tttctgctcc ggcggtgagt 54000

cagcttgctt ctcgagttag tggcatgaaa ggcaacacaa tcgtattacc tgtttgtgga 54060

aggaacgttg cttttacgct aaagtgata gcagcacctg atgttgaatc taaaacaatc 54120

gtttttagtg gtaatgagcg aaaccaagca ttattaagtg agacgtcgtt agatgacttg 54180

atcccttcat ttttaacgtc agggcagcag atccccgcct ttgcacgtga acataacggg 54240
```

```
aacatcgagg ttgctgatgg aagtcgccga cgtaaagccg cgatactcac cggaagtgac 54300

tataaggttc tggttggtaa cttgaatgat gagcagatgc tatggctgtc ccaaattgct 54360

aatgagtatc gtccgacgag tgcttatgaa cgaggcctgc gttacgccca acggctaata 54420

tctgaatttg aaggtaatat tagtaaattg gcagaggccg agcatctctc tcgcaaaatt 54480

attcagcgtt gtattaaaac ggctgggctg ccccttaaaa ctattcaact gtttgctaac 54540

cctaatgaat taagtgctcg tagtggcgaa gcattaagta aagcttatga aaataatgtt 54600

gatacgctaa agcgagttac gcataaaatt atgaagcaaa acaggaagg tcgccagttt 54660

actacggaag aattaatcgt attgctgatg cctgagagaa aacagccaga gaacattcat 54720

aaaaaaagct ttggcaaaaa tatagaagca aaatattcaa aagacaatgt ttctttctat 54780

ctcaaatctg tgccagagtc cttggttaaa caaatagaag aactcttgaa tacctatgca 54840

aaggaacatt ctttgtagtg cctgaataag atcagaacaa ggtgggttgt ctgcccgcct 54900

ttatttagtg tatatctatt gttttagctc atccttcgta gaagatctcc ttctttacaa 54960

ctcatttcct aagctgaact gtggccccaa tcaccaacgt tagcattgga tatccaggtg 55020

ggaccgtggt cccaattact aacgttggca ttggatatcc aggtgggacc gtggtcccaa 55080

ttaccaacgt tggcattgga tatccaggtg ggaccgtggt cccaattacc aacgttgaca 55140

ttggatatcc aggtgggacc gtggtcccaa ttaccaacgt tggcattgga tatccaagtg 55200

ggaccgtggt cccaattact aacactggca ttgaacatcc tagtggaaat gtgattcgaa 55260

ttgaaagcga ttaagtcgat gagcattttt ttagtgatag ctttagggag attaaactag 55320

cggatatttc attatggaga taataatttt cgcttcattt atcacccctt cgcaatactc 55380

tgttcaccaa gtcatactat tcttagccca gagctattga tgcatcaaca acttgcatca 55440

gatgtttact gttcgcgtgc ggcggtgttt catcaaacat atctatctga cctggtcgac 55500

tgccgacgtc attaagcatg atgtcggctt tttgatagcg atatccatcc cgccaggttg 55560

gatacggcga tttcatgtta gtatcgatgt aacaatgacg gctctattgc attaaggcac 55620

agtctggtaa catgctgttt tttttatgat attgcctgca catatcttta atcaaaaaat 55680

tttttttgtcg cctgcattac cccatcgatg ttatagctca gtgtgttcac tggtatcttg 55740

gcgatgccct gagttttcta aatctagagg aaatgatgac gaaacacggt atctctgttg 55800
```

```
        agcattacac actccacagt tgggttattc gtgtggtgcc attactgcat aaagcttttt 55860

        gccgttataa atgtaccgtg ggtcgccggt ggcgaatgga tgaagcctca aaggtcagtg 55920

        gaaatacctg taccgggcgg ttgatactcg cggttagact atcgattttc tgctgacggt 55980

        aaagcaggat gcggcggcag cactgtgccg actggtatca ggtctcccgg taaattcata 56040

5       tattaaagta ggcagggctg gctcattaca gattgtttag ctataattgt attactcagt 56100

        aatacataac ggaggggata tggctcacgt aaccagcgta acacttggag agcatttgac 56160

        aggttttgtg ggggaaatga ttcagtctgg tcgttatggc aatatatcag aagtgcttcg 56220

        tgatgcctta aggctaatgg aagcacgtga acagcgtgtt caacatgtac gcgatatggt 56280

        gcttgcagga acaaatgtac ctgtgagcca tcgtttaatg gatgagattt tttctgctgc 56340

10      ggtgaaagat actagtgtat aaactgtctg aactagctga tgaggatatt tataatattg 56400

        ccagttatac tatccggcat ttcggtgtga ctcaggctaa gttataccat gagaacttgg 56460

        caaaggtatt cgagctatta gctaaaaatc cagagttagg ggctgagtgt aactggattt 56520

        gctctgatat tcgccgtttt cagtataaaa agcacggtat atactatata acgcttagca 56580

        atgatatttt gatttctcga gtgctgcatc aatccataga tatagatgtt caggattttc 56640

15      cagagcatga gtagtaatac agaagagaga taagtcagaa attctaacaa tgagcatgct 56700

        aaaaaacgat tcgcccctga aagatcaggg acgaagatat tcgcaatatt gatagaaaaa 56760

        gggggaaaca ctatcccctt gttttttatcc atatcacatc aatgacagta atttctgcat 56820

        ctgttgcgcc agcccttttga tctcatttgc tgcctgcgtt agatcaacgc cactggcgac 56880

        gtacgcgctg ccgccccac caatagttcc ccactgcgag aagggaatac cacaaacagg 56940

20      cgtgtttaag atggcactgg cctcagcttg caattcccca ccacaaaact gcatcagccc 57000

        ttggcattga gtgatactgc cacgaagagg gccgctgccc gtagcgaact gatcatgatt 57060

        tttctgcagc atctctgcat ccaagctatt caactgctgc atgtattttg gcagcgtctc 57120

        agcagcaagt tgcttgatac tgtcactgaa agacgtagga cttggcattt gtgcaggtgt 57180

        gggtgctggt gtcaccaccg gtttatggct cccctccgag aacatgcgtt ggataaaccc 57240

25      aatcacagag tgggccactg atgataacct ctcaatgata cggctggcta agctggaacc 57300

        ctgagggctt tcagtgcgcc cggccagatt gtttgcatat tgatcacttg tttgctgtga 57360
```

```
gactgagcgc ccagacattt ctcctacgct gctagatcct gacacagatg tcggcagggg 57420

cagtgatgta gaaataaatg atgatatttt catgactatt tattaccttg gctattaaaa 57480

caaggttatc ttagtgggaa aatagccgat ggctatataa aaaatcgctg ctgttttgt 57540

tgttatatta gacaaaacaa aaactaaaaa ttataggcta aaattgatgg tctgccgaga 57600

gtgctttggt taagttgata ttttatctaa ctattatgag atcataatgt attcatttga 57660

acaagctatc actcaattat ttcaacaact ttcgttgtct attccagata ctattgaacc 57720

ggttatcggt gtcaaagttg gggaattcgc ctgccatata acagagcatc ctgtcgggca 57780

aatattaatg tttaccctac cttctcttga caataatgat gaaaaggaaa ccttacttag 57840

ccataatata ttcagtcaag atatattaaa acccatctta tcctgggacg aggttggggg 57900

gcacccagtg ttatggaatc gacaaccatt gaacagcctg gataataact cactatatac 57960

tcagcttgag atgctggtgc aggggctga acggctacaa acctcatcac taatctcacc 58020

accacggtca tttagttgag tagatttttg gttgttgcct tattatacgg aatgacctgc 58080

ccccaggatt agatacaacg ctcacttagt aatgtcggat ccttcactat cagaattacc 58140

ctttctccag gccgccgcaa attcagacgg cgtctgataa ttcagcgtag agtgcgggcg 58200

gcactcatta taatcctgac gccattcact gatggttttc ctggcatgac tgacgtcact 58260

gaaccagtgc tcattcaggc attcatcgcg aaagcgtccg ttaaaactct caataaatcc 58320

gttctgtgtc ggcttgccgg gctggataag tcgcagttcc acgccatgct caaaggccca 58380

ttgatcgagc gcgcggcagg taaattccgg gccctgatca gttcttatcg tcgccggata 58440

gccgcgaaac agcgcaatgc tgtccagaat acgcgtgacc tgcacgcctg aaatcccaaa 58500

ggcaacagtg accgtcaggc attccttcgt gtagtcgtcc acgcaggtaa ggcactttat 58560

cctgcgaccg gtggccaatg cgtccatgac gaaatccatc gaccaggtca gattgggcgc 58620

cgccggacgg agcagcggca gacgttctgt tgccagccct ttccgacgcc ttctgcgttt 58680

tacgcccagg ccactgaggt gataaagccg gtacacgcgc ttatgattaa catgaagccc 58740

ttcacggtgt tagcgccagt gatataagac ggtaattcac cattagtatt gtccgctcca 58800

cccaacatgt tgtttccttg aggttctcac accagaaagg acatcaacat gctgagcaga 58860

gaggactttt acatgataaa gcaaatgcgc cagcagggg cgtacattat cgatattgcg 58920
```

```
actcaggtgg gttgctctga acgaactgtc agacgctacc tcaaataccc tgaaccgcca 58980

gccagaaaga ctcgccacaa aatggttaag ctgaaaccgt ttatggacta catcgacatg 59040

cgcctggcag agaatgtctg gaatagcgag gtcatcctcg cggaaattaa ggcgatgggc 59100

tataccggcg ggcgttccat gctgcgttac tacatccagc ccaaacgtaa aatgcggcca 59160

tcaaaaagaa cggttcgcgt cgaaacccag ccgggatatc agctccagca cgactggggc 59220

gaagtcgagc tagaggttgc tgggcaacgg tgtaaagtta acttcgcggt taatacgctg 59280

gggttctccc gacgcttcca tgtcttcgct cgccaaagc aggatgctga acacacctat 59340

gagtcgctgg tccgtgcctt ccgttacttc ggcggcagtg tgaaaaccgt gctggttgat 59400

aaccagaaag ccgcggtgct gaaaaataac aacggaaaag tggtgttcaa ctccgggttc 59460

ctcttgttgg ccgaacatta tgacttcctg ccacgggcct gccgcccgcg cagggccaga 59520

accaaaggta aggtggagcg gatggtgaaa tatcttaagg ataacgtctt cgtccggtac 59580

cgcaggttcg acagcttcac ccatgttaac caacagctgg agcagtggat ggcggatgtt 59640

gctgataaac gcgagcttcg ccagttcaga caaacaccgg aacagcgctt cgcgctggaa 59700

caggagcatc tgcagccgtt gccggatacg gacttcgata ccagctactt cgacatccgc 59760

catgtgtcct gggacagcta tatcgaggtt ggcggcaatc gttacagtgt tcccgaggct 59820

ctgtgcgggc aaccagtctc gatacgtata tcgctggatg acgagctgcg gagctacagt 59880

aatgagcagc aggtggcctc acatcgactc tgttcagcat cgtctggctg gcagactgtg 59940

ccggagcacc acgccccgct ctggcaacag gtcagcatgg tagaacatcg cccactgagt 60000

gcttatgagg agttgctgtg atgcatgaac ttgaagcgct gctgagtcgc ctgaaaatgg 60060

agcacctgag ctatcacgtt gaaagtctgc tggagcaggc ggctaaaaaa gagctgaact 60120

accgggagtt cctgtgcatg gcgctgcaac aggagtggaa cggcagacat cagcgcggca 60180

tggagtcccg actgaagcag gcgcgtctgc cgtgggtcaa aacgctggag cagttcgact 60240

tcaccttcca gccgggcatc gatcgtaagg ttgtccggga gctggccggt ctggcgtttg 60300

tggagcgctg cgagaatgtg atcctgctgg gtcctccagg tgtcgggaaa acccatctgg 60360

ccgttgctct cggcgtgaaa gcagcggatg cagggcatcg ggtactgttc atgccacttt 60420

atgaagacat tactaacatc ggggtgtact aatcaacgag gagcaggtca ggaaatagcg 60480
```

```
ataacctata aatttgtggt gccagtaata tcagatttcg ctcagtaaaa gttaacacca 60540

agttggagtg ttgactttta tctcctgttt ttttttaatt tttaatgtaa aagacttgta 60600

ttaagtccat tcacttggtg gcgtcgccgc ctcctcattg gtaatgagga gtaccggaag 60660

agttctcaat gtgaatggtt gagctgtata agtttgttat actttatatc cacggtgata 60720

caacgttggg gtagcatctg ggaaggagag aaataaaaaa attctatatt tttctaattt 60780

taaagggtca gttatatgcg cacttacagt tcattacttg aagaatttgc tacagagcta 60840

ggtcttgaag aaatagaaac aaatgagtta gggcatgggg ctgttaccat tgataaaata 60900

tgggtagtac atctggcacc tatcaatgag aaggagttag tggctttat gcgggcaggg 60960

atcttgactg gtcagtctca actttatgat attttgcgga aaaacctctt tagcccacta 61020

tctggtgtaa ttcgttgtgc gcttgataaa gatgatcact ggctattgtg gagtcagtta 61080

aacattaatg acaccagtgg gacgcaactg gcgagcgtat tgacgtcgct ggttgataaa 61140

gctgttactc tttcttgtga acccacaatg aagaaagagg aggatgatca tcgtccttca 61200

tcatctcatt tactggttta attctataaa agaaaaacgt acgatatcca ttaatgggtt 61260

tggttgagac tgtaaacaag attgtataat tgcctgtttt tgatatcttt actccaacaa 61320

cggagacagg caaatttgat ccctccccaa tatccgtacc aggctaaatc agagatccgg 61380

accttttgat gacttcgggt caaattctgc cggagtcagg ttatttaacg aagaatgcgg 61440

atgaaaatga ttatattctt gccgccattg ttcaattttc tcctgagcat cttccagaga 61500

aaggaacccg tgcacgttca gacattcatc cctcagactg ccattaaatg actcgataaa 61560

ggcattatct gtaggctttc cggggcgtga acagtccatc gtgaccctgt tttcatacgc 61620

ccatcggtcc atcgacttcg agatgaattc gctgccgtta tctgtctgca gcctttgtgg 61680

aatacgcccc agcgaatgtt ttaatctgtc catgacagcc acaacatcat ctccacgtaa 61740

cccctgaccg acctcgatcg ccagacattc acgactaaaa ttatccacta tagttagcgc 61800

cctgacccga cgccgttga acagattatc agcaacgaaa tccatgctcc agcactgctc 61860

taacgcggtc acttctggac gtgcgtgcct gtgcttcgct gtcacatgcc gccgtggacg 61920

tttcgaacgt agattgagac cctcaagaca gtaaatacgg tgcgttttct tatggttaac 61980

aagccagcct tctctccgca gcaggatatg aatgcgcgga cagccataac ggatgcgcgt 62040
```

```
ctccgcaatt tcccgtattc gctgagtaat agcccgatcg tcacgatggc tacgatagtt 62100

gtatacagtg cggctctgca tcatcagcct gcaccctctg cgtactccga tacggtacgc 62160

cgccagcaga tattccacgg catcacgctt ctgcagcggc ctcagaactt ttttcggatg 62220

acatcctgca gcatttcctt atccagactc agatcggcca ccagacgttt gaggcgctga 62280

ttctcatcct caagctgccg aagacggcgc aattccgtga cacccattcc cccaaacttc 62340

ttcttccagt tgtaaaatgt cgcttccgaa atgcccatct tcctacagac ttcttccact 62400

cgagtacccg tttcagcctg tttgagtgca aaagcgattt gttcttcggt ataacgcgtc 62460

tttttcataa cgaatgaccc cttttttggac ggaaaagaag ggccgaaaac tctactttac 62520

agcggtactg aactaagggg gaagatcaag caatccttgt ttgtcgatta ttttaaattt 62580

gttttgactc ctccaatctt tgattcaata gacacgcatt caatggtttt tattatatca 62640

tcaatgccgg cccagagatt ttcattatta ttgttcttgt aatttgtttt taattgagta 62700

ttcaaactcc tctcaattcg catcacttca tcaatatgtt caagcttaca ctttattaag 62760

tcatccctaa gagaaatatt ttccttctca agtttagata ttctttttctc tagccgagtt 62820

gttatttctt tttcctttct atttttctct ttgttgaaaa ataaatcaaa gtagtatttt 62880

gcaaaaaatg ttaacattac actgagtgtg taaaccagaa attgaatatt tgatggtcat 62940

gtggatttag gaatataaaa cccaaccgaa gccataaaaa tagcgggaat tgcatatgat 63000

aaaaatgtat aaatagtcat ttttatttat ctgctttagt ttacatagtt gtgttctatc 63060

cctttgtctt taaagctatt acttagcttt ttaggggcaa ttctaagaag tcccatagat 63120

gtttctagtt cattggaaaa atttggaata ccctttgagg catcaaacac catgctatat 63180

gtaaactgaa ccgtaagttc tttttctttca acgtctagcg aatttaaact tgccttaatt 63240

ccgagacata ctgagttaaa ggaatttgtt gctttatata ctgaaacttc atttggcttt 63300

ccattgctga aaaagtcaaa gttctcgaaa gtaaaaagat atttaatttc ataaatgttt 63360

aaactgtcag ttgtgaggtc tgaaaaataa taatcacctt caatataggt aaactcacca 63420

ttatttttat caagcatttt tatattctta agagattcca cttttttctaa aatagagtat 63480

aaattattct gcaaattcat tttacgcccc ttagctgttt attgtgattc attgatgact 63540

ttataaatag ttgaacgagc tatattcatt tttttggcta tttctgtcgc gcccatcccc 63600
```

```
        tgttcatgca attcgagtag ttcctttctg ttgattctgc gctttcgtcc gaatttaacc 63660

        ccctttagct tagcctcttc tctcccttca tttgtacgct ccagtattct ctgtcgttcg 63720

        gcttgagcca ctgctgatag aatagtgaca accattttac ccatttcccc atcggtactg 63780

        attccgtcat caataaactg gatggacaca ccctgggcgt caaactcttt tatcaactgg 63840

  5     atcatgtcga cggtgtcgcg gccaagacgg tcgagcttct tcactagaat gacgtcacct 63900

        tcttccacct tcatacgcag cagatccagc ccctccctgt cggcagagct gccggatgcc 63960

        ttatcagtaa atatacgatt tgctttcacg cccgcgtctt tgagtgtttt gatctgaata 64020

        tcgagggatt gctgactggt tgatacccgc gcgtaaccaa aaagtcgcat aaaaatgtat 64080

        cctaaatcaa atatcggaca actggtgtct attataacaa aaaatcgatt aaatagacac 64140

  10    acaaaccgca ccatttcagt gtgtccgaca acttataata tttcggacgg ttaaaaagtt 64200

        gttaacaaat aaccgtcagg cagggaggcc tgtatgccag tcgattttct gaccactgag 64260

        caagaacaga attacggttg ttacgttgca gaacccaatg acgtgcaact ggtgcgctat 64320

        tttcatcttg acgagcggga tcttgctttc atttaccagc ggcggggaaa gcataaccgc 64380

        ctgggaatag cacttcagct cacaacggcc cgttttctgg aacctttat tacggattta 64440

  15    acccaagttc tgccaggtgt tcagcatttt gtcgccgtac agcttaatat acgccgtccg 64500

        gaagtcctct cccgctatgc cgagcgtgat accactcgca gggaacatac cgcgcagata 64560

        aaggaatatt acggctatca tgaatttggt gattttccgt ggtctttccg cctgaaacgt 64620

        ctgctgtaca cccgtgcatg gctcagcaat gaacgccccg gtctgatgtt tgattttgcc 64680

        actgcgtggc tgcttcagaa taagattctg ttgcccggag caaccacact tgtacgtctc 64740

  20    gtcagtgaaa tacgcgaaag ggcaaatcag cggctctgga aaaagctggc cgccattcat 64800

        tatctgaccg aactaaacgg cacgaaaaaa cgcctcctgg atgatgctcc tgaacatatt 64860

        attaccggcc cctggaaacg cctggtgtac gatgcggagg ccggataca acgtgccggt 64920

        tactcgcttt gtctgctgga gcgccttcag gatgcattga cgccggga catctggctg 64980

        aaaaatagcg atcgctgggg agatctccgc gagaagttgt tgcagggga agagtggcag 65040

  25    gctcagcggg tcctcgtctg ccgggcgttg ggacatccca ccgatggaca taaaggcgta 65100

        caacagttgg cggtccaact ggatgaaacc tggagagcag ttgcatcccg ctttgaagga 65160
```

```
aatacggaag tccatatctg caatgacggt aaatatcctt ccctgactat cagcagtctg 65220

gagaaattgg aggagccact gtcgttgctt cgtctaaaca atcgggtcag gcaactgcta 65280

ccgccggtag atttgacgga actgttgctt gaaatagatg ccagaacggg atttacacgt 65340

gagtttacac atgtcagtga atccgggggct cgagcgcaag atctgcacat cagcctgtgc 65400

gcggtactga tggctgaagc ctgcaatatc gggctggaac cgctgataaa gcacaatata 65460

ccggcactga cgcgccaccg gctcagttgg atgaaacaga attaccttca ggcagaaacg 65520

ctggtcagcg ccaatgcccg gttagttgat tttcagtcca cgctggagct tgctcgccgc 65580

tggggtggcg gcgaagtggc ttcagttgac ggtatgcgct tgtcacgcc agtgaaaacg 65640

gtcaattccg ggccgaacag aaaatatttt ggctccgggc gtggcatcac ctggtacaac 65700

ttcgtctctg atcagtactc tggattccac ggcatcgttg tccccggcac attacgggat 65760

tccatttttg tgctggaagg ccttctggaa cagcagacag ggctgaatcc ggttgagatc 65820

atgacagaca cagccggtac cagcgacatt atatttggcc tgttctggct acttgggtat 65880

cagttttccc cccgtctggc tgatgccggt gaagctgtat tctggcgagt ggataaatcg 65940

gcaaattacg gagcacttga tgagcttgct cgtgggtgtg cagatctgtc gaaggcagaa 66000

aatcagtggg atgagatgat gcgaactgcg ggttcgctca agctgggcac cattcatgct 66060

tcagaactca ttcgctcact actgaaaagc tcacggccgt cagggctggc tcaggccatc 66120

atggcggtgg ggcgtgtaaa caagacgctg tatcttctta attatattga tgatgaagat 66180

tatcgtcgcc ggatcctgac gcaactcaat cggggagaga ccgccatgc cgtggcacgt 66240

gcaatttgtt acgggcagcg cggtgagatc agaaaacgct accgtgaggg gcaggaagat 66300

caactgggcg cattggggct ggtcactaac gcagtggtac tgtggaacac gctttatatg 66360

caggaagcac tgagctggat gcgcagtaat ggagaagaaa ccagggatga ggatatcgcc 66420

cggttatctc cactgatgca cgggcatatc aatatgctgg ggcattatac gttcacgcta 66480

tcggatgata ttttaaacgg agaactgaga gcattaaatt tcaatttaaa caatgaatta 66540

tctccttaac gtacgttttc gtcccattgg acctcaaaac ccatcaccgg gtagccacgg 66600

ttgaccacaa tgcgatccag tactctgatg acgtgctgtg ttggcaggtt cagatcgatt 66660

tcaatcgcca gcttttcacg attgtaatca tccacacaga tcagtgcatc gtgcataaaa 66720
```

tcgaccgccc cgctcaggtt aagtcgttcc ggcaccgcca gcggtgatgg ggtacgagct 66780

ggcaggcgtt gtttcccttt gcggcgaata ttgagtttca ggagacaata gatacggtgt 66840

acccgtttat ggttccagac atatccccat cgcctcagga tttgaaaaac cttaaagaaa 66900

ccgtcgcgtg ataacgctc gaccactgat ctggtgttca gtgaatcagt ttttttcgca 66960

tggtgaactc ctcaaaatac atattcagta tgtcggaaat tctctaaaag agaatggtta 67020

ttttgatgg tcattacagt acagattatt ttatataatt tattacccac ttttttata 67080

ttttttgata gagggaggat aataaataaa aaattataa agtaatggtt tcttgctgtt 67140

ttctggtgtt tttctctata tttatgtttt tttggtgaaa ataagtgtgt tgtcaggtaa 67200

tttcaaagga ttatacaaaa tatccggttt gaggtgaggg attttttttt atattatctg 67260

cataacactt ttcgtgttat ctgaaagtat tttgtagtgg gctgactccg acgattcgat 67320

tagagattac aaacgatgca tatattcagt agttaatcga tatctttta agatcgatta 67380

gtgctgtttt ttgcatgatt atcagaaaat aagtcataga taatcctatc cctcttctat 67440

gggaggcgtt cgctttaatt aatatatttc tcagatgtta taactgagct tttattcacg 67500

ggaaattaaa gaaatataaa aggtgcttac aatgactaaa gattttaaga tcagtgtctc 67560

tgcggcatta atatctgcgt tgttctcatc tccatatgca tttgccgagg agcccgagga 67620

tggcagcgat ggtattcctc gtttgtcagc agttcaaata agcccaaatg ttgatcctaa 67680

attgggtgtg ggattatatc cagcaaaacc aatattacgt caagaaaacc caaaattacc 67740

tccacgaggt ccacaaggtc cagaaaaaaa agagctagat tagcagaagc aatacaacca 67800

caagtactag gcgcaggcgg gctcaatgct cgcgctaagg atccctatag cattgcgatt 67860

ggtgctactg ctgaagcagc aaaaccagca gcaattgctg tgggctctgg ttcaatggca 67920

acaggcgttg attctgttgc aattggtcct ttaagtaagg cattgggaga ttcggcagtt 67980

acttatgggg taagtagtac cgcccagaaa gatggagtag ctatcggtgc gaaagcatca 68040

gcttcggata ctggtgtcgc tgtcggtttt aactcgaaag ttgatgcaca aaactctgtt 68100

gccattggac actctagtca cgttgcggca gatcatggtt attcaattgc aattggggat 68160

cattctaaaa ctgaccgaga gaatagtgta tccattggtc atgaaagcct taatcgccaa 68220

ttaacacatc ttgcggctgg cactgaagac actgatgcag tgaatgtcgc gcaattaaag 68280

```
     aaagaaatgg ctgaaacatt ggaaaatgca cgtaaagaga ctttggctca gtctaacgat 68340

     gttttggatg cggccaaaaa acactcaaat agtgttgcca gaacaacttt agaaactgct 68400

     gaagaacatg caaataaaaa atcagctgaa acgttagtaa gcgctaaagt gtatgcagac 68460

     agcaattctt ctcaaacact aaaaactgca aatagctata ccgatgtgac tgtaagtaat 68520

5    tcgactaaga aagcaacccg tgaatctaat caatacacag atcataaatt cagtcaactt 68580

     gacaaccgtt tagataaact tgacaaacga gttgacaaag gtttagccag ttcagccgct 68640

     ttaaacagct tgttccagcc atatggtgta gggaaagtaa actttactgc aggtgtcggg 68700

     ggatatcgtt ctagtcaggc attagcaatt ggttctggct atcgtgtaaa tgagagtgtc 68760

     gcatttaaag ccggtgtggc ttatgccggt cctcgaatg tcatgtacaa cgcatcattt 68820

10   aatatcgagt ggtaatatca tttagaaatt aacaagtcta taggaaaaca ccgattacat 68880

     aatcgtaatt ggtgttttat taatatgcta atgaaaaatt ttttagtaat tctgcttttt 68940

     atcatggttt cagttacatg gggaactaca tggttagcga tgaaattaac cgtcgaaaca 69000

     atctctccga tatttgctac gggcatccga tttatgttgg ctgcgcctgt attaatccta 69060

     attacatcaa cccgcaaatt cagcgaagca gagtaaacac tgcgcgttat tttgagcagg 69120

15   cggcacaatt cgaccactgg ccattttgtt ttcagccgtg ttaacgcaaa gatttgatgg 69180

     ggaactcgct catcaacacg gctgcctgct ttagtatttc tttttccatt tccagccgtt 69240

     taatctgcgc cctgagcgac tggatttcac gttgctctgg tgtcagtgca ggattgtccg 69300

     gcgtcacccc gctgacttct tctttgtact ggcgtatcca tttacgcaat tggctgggat 69360

     ccagctccag agcgcgtgca acctcgatgg ttgaccgctg atacttaacg acctgctcaa 69420

20   tagcttccag tttgaattca ggagaaaaac ggcgttatcc agaacgtgaa gcgatttacg 69480

     cggcgctgga gtaaaccaat gggcggcatg gccgcccatt ggtttactta tcagtacgca 69540

     gtgccatttt gcggccgcgc gaaaacccgtt gtcactctaa gtaacgcgga gggtgagtcg 69600

     gtactgattt ctccgcagca gaataccgcg caggatattt ccctgttcat gccccgggaa 69660

     ctgacggtca gtcaaggtga tcgggtgcga tttacccgct cagacacaga ccggggttat 69720

25   gtggccaata gtctgtggga agtggcgggt tttactgaag acggtgctgt gcgttttcgt 69780

     cagggcgacc aggaaaagat tgtcgatcca caaaaggcca ccgaagaccg ccatattgac 69840
```

```
ctggcctaca cgctgacagc ctatggtgtg caaggggcca gtgagcggtt tgtcatcgcc 69900

ctgtttgggg ctgaaggtgg cagaaagagg atggccactc tgcatctctt tacgtgacat 69960

tgtcacgcgc caaagagcat gtctaggtct atacggacaa cgttgttaaa tggttgggtc 70020

ttgccgggca gtcaaatgcc ggaaaaaccg cgcattgtag tggatcagta ataccggaca 70080

ccctcaatag cctgttaatt taatgacagc caattgaggt aattgataat gactcaacct 70140

aaacagacca aacgccgttt ttctcctgaa ttcaaactgg aagctattga gcaggtcgtt 70200

aagtatcagc ggtcaaccat cgaggttgca cgcgctctgg agctggatcc cagccaattg 70260

cgtaaatgga tacgccagta caaagaagaa gtcagcgggg tgacgccgga caatcctgca 70320

ctgacaccag agcaacgtga atccagtcg ctcagggcgc agattaaacg gctggaaatg 70380

gaaaagaaa tactaaagca ggcagccgtg ttgatgagcg agttccccat caaatctttg 70440

cgttaacacg gctgaaaaca aaatggccag tggtcgaatt gtgccgcctg ctcaaaataa 70500

cgcgcagtgt ttactctgct tcgctgaatt ttcgggttga tgtaaaacgt ctgcaactg  70559
```

(2) INFORMATION FOR SEQ ID NO: 3

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9960
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: circular

    (ii) MOLECULE TYPE: DNA (plasmid)

    (xi) SEQUENCE DESCRIPTION:

```
tggcgtgatg atggaactgc aacatcaacg actgatggcg ctcgccgggc agttgcaact 60

ggaaagcctt ataagcgcag cgcctgcgct gtcacaacag gcagtagacc aggaatggag 120

ttatatggac ttcctggagc atctgcttca tgaagaaaaa ctggcacgtc atcaacgtaa 180

acaggcgatg tatacccgaa tggcagcctt cccggcggtg aaaacgttcg aagagtatga 240

cttcacattc gccaccggag caccgcagaa gcaactccag tcgttacgct cactcagctt 300

catagaacgt aatgaaaata tcgtattact ggggccatca ggtgtgggga aacccatct 360

ggcaatagcg atgggctatg aagcagtccg tgcaggtatc aaagttcgct tcacaacagc 420

agcagatctg ttacttcagt tatctacggc acaacgtcag ggccgttata aaacgacgct 480
```

```
tcagcgtgga gtaatggccc cccgcctgct catcattgat gaaataggct atctgccgtt 540

cagtcaggaa gaagcaaagc tgttcttcca ggtcatcgct aaacgttacg aaaagagcgc 600

aatgatcctg acatccaatc tgccgttcgg gcagtgggat caaacgttcg ccggtgatgc 660

agcactgacc tcagcgatgc tggaccgtat cttacaccac tcacatgtcg ttcaaatcaa 720

aggagaaagc tatcgactca gacagaaacg aaaggccggg gttatagcag aagctaatcc 780

tgagtaaaac ggtggatcaa tattgggccg ttggtggaga tataagtgga tcacttttca 840

tccgtcgttg acaccctgat gaattcacgt gttcacgcct gaataacaag aatgccggag 900

atacgcagtc atattttta cacaattctc taatcccgac aaggtcgtag gtcgttatag 960

gaaaattctt agcaccattc cggaacaatc agaacagcag gccatgaacg actgacaaca 1020

ttacgaatat aaaaaacgca cccgggccag acattccccc tactgattaa accagccgga 1080

cttgtccacg gaacggtctt tttaaaccga cacacagtct gagtacagat acatgtcacg 1140

atgatgcagg attagcggaa gagtgtgagc acgtttccgg gaactgtggt gaaccatagc 1200

tcaatattcg agtgagggca taccggaaac gcgctcagat tcgttgtaac gcgattttcc 1260

gtaccgggca attttttcag ttgttttttc gtttcatgtc gtcagaaacg ttctgagcgc 1320

gtttccggca tctgatgcta cgcaaaccat ccccatggtc agttgacagc cggaaacacg 1380

cgggtgtcgt tttagcgtat cgacgggacg gcgtcgagaa gcacaaaaaa cagatgttgt 1440

actcagtcag ttgttttaca gacagcactg cggcagattg aaaaagtacc gtactttcag 1500

gaatgtccag aaaccatgtg tcagacttcg ttctcccct tccgggtgaa ttttttttgtc 1560

atccgttcag gaatctcttt ataacgatta ctccatttca ggattttta tgtggcgttt 1620

actacaggca ggatattcaa aggcaaaaaa atcccccgga acaggcggaa cccggacagg 1680

gggagaacga atcgctaaat aattttcgta gttgtatttc ccatcgttgc tactgcaacg 1740

ggatgaattt gccgcagttt atcctgtaaa acaatcctga tttactcaca ctccacatat 1800

cactgacgga gcacaacgga atagtgaaca aacaacaaca aactgcgctg aatatggcgc 1860

gatttatcag aagccagagc ctgatactgc ttgaaaaact ggatgctctg gatgccgacg 1920

agcaggcggc catgtgtgaa cgactgcacg aactcgcgga agaactccag aacagcatcc 1980

aggctcgctt tgaagccgaa agtgaaacag gaacataacg aagctcccgg agacggtcac 2040
```

```
agcttgtctg tgaacggatg ccgggagcag acaagcccgt cagggcgcgt cagcgggttt 2100

tagcgggtgt cggggcgcag ccatgaccca gtcacgtagc gatagcggag tgtatactgg 2160

cttagtcatg cggcatcagt gcggattgta tgaaaagtgc accatgtacg gtgtgaaatg 2220

ccgcacagat gcgtaaggag aacatgcaga tgccgatgct cttccgcttc ctcgctcact 2280

gactcgctgc gctcggtcgt tcggctgcgg cgagcggtgt ctgctcactc aaaagcggtg 2340

atactgttat ccacacaatc aggggataac gccggaaaga acatgtgagc aaaaaacgaa 2400

gaccccagaa aaggccgcgc cggaggcgct ttttccatag gctccgcccc cctgacgagc 2460

atcacaaaaa tcgacgctca agtcagaggt ggcgaaaccc acaggactt aaagatacca 2520

ggcgtttccc cccggaagct ccctcgtgcg ctctcctgtt ccgaccctgc cgcttaccgg 2580

atacctctcc gcctttctcc cttcgggaag cgtggcgctt tctcatagct cacgctgttg 2640

gtatctcagt tcggtgtagg tcgttcgctc caagctgggc tgtgtgcacg aaccccccgt 2700

tcagcccgac cactgcgcct tatccggtaa ctatcgtctt gagtccaacc cggtaagaca 2760

cgactttacg ccactggcag cagccattgg taactgaaaa gtggatttag atacgcagaa 2820

ctcttgaagt tgaagcctta tcgcggctac actgaaagga cagcatttgg tatctgtgct 2880

ccacttaagc cagctaccac aggttagaaa gcctgagaaa cttctaacct tcgaaagaac 2940

ccacgcctga gaacgtgggt tttttcgttt acaggcagca gattacgcgc agaaaaaaag 3000

gatctcaaga agatcctttg atcttttcta ctgaattgcg ctcccgatca gttcagcaga 3060

agattatgat ggggttctat gggtattgct gcggtaacac ccatgttact tgaggttgta 3120

tgtagtctgt gtagaattat acacataagg cttaaactgc tctttttttt caatatgcaa 3180

ttggaagttc attgactaca taaatagatt attccaaata atttatttat gtaagaacag 3240

gatgggaggg ggaatgatct caaagttatt ttgcttggct ctcatatttt tatcatcaag 3300

tggccttgca gaaaaaaaca catatacagc aaaagacatc ttgcaaaacc tagaattaaa 3360

tacctttggc aattcattgt ctcatggcat ctatgggaaa cagacaacct tcaagcaaac 3420

cgagtttaca aatattaaaa gcaacaccaa aaaacacatt gcacttatca ataaagacaa 3480

ctcatggatg atatcattaa aaatactagg aattaagaga gatgagtata ctgtctgttt 3540

tgaagatttc tctctaataa gaccgccaac atatgtagcc atacatcctc tacttataaa 3600
```

aaaagtaaaa tctggaaact ttatagtagt gaaagaaata aagaaatcta tccctggttg 3660

cactgtatat tatcattaat agcaagcccc tcattattat gaggggctca tggttatttt 3720

aacaatccac tatcgatatc tttttgcacc agagcgccct ctcgtttacg tctgtcagac 3780

attccatcaa caatattatt aaaagcattt acaaggccat tccagtcttt tgcgataact 3840

ttattccata ctgtgggagc agttctggat aacttaaacc cttttgata tccaatagac 3900

accagtgctg tacgggttct caacggtaaa tcgctgaacc gaagaccgat attagcgtca 3960

ttgaaaagac cttcaatctt atgtgagaat ttatcaatat aaatattaga taagagatga 4020

gcttcattat cagaaagcgt cagaggtgct gttctcactt tatcataagc ctccttccct 4080

cgaagcatat aatacccatc aagtctatct gcaatatact gagggacacc gtcattcaat 4140

aaatcctgtt tgcttcgctg accaaggtca accccggaac cgaatgtaac accggtactg 4200

ttaaaataat cgctactagg attagacgga aaatgacttg tcggattaaa cccttcaaaa 4260

ccattactgg agaaaatatc gtggtcaaca atatttaccg aacgacgtaa aaattccttc 4320

agttgactaa tattgtcaaa gttaatgaca gtgttgtccg ctaggacgat gcgatttcgg 4380

ttattattca gaatgtcttc gttctctttc twatcgagat gttcaataga ttcggcaatc 4440

gttccctcaa gaaccatgac acggtagact ttcacaccgt ctttttcctg acctgtttca 4500

acagttattt tctgttcgta agacacggtc ccttcagttt ttgaaatttt actttcctgg 4560

cggatcttat ttgaatattc actgtctttc tccatctccg tatcaatcgg aaaccccata 4620

atgtacatca gtttaaaatt actccggcca ggcagatcca cataatgtgg taatgcaatt 4680

gtaatcgaat tagcttcaaa atttggtctg taactgctta atgtacttcc ggaaaagaga 4740

aaagccggaa caccacctga accattcact accattgtat ctgacataaa aattcctctt 4800

taacacataa aaaaacaata agttaaaaaa aaatactgta cataaaacca ctgtttttat 4860

gtacagtaat aaaattacgc cgctttattt tctctgtcaa taatatgaaa tttcattttt 4920

gtgatctgaa tcactcttat aaaaatcagg aagggaagat tcgcagcaga aaaacagcac 4980

cgggtaacat cagaaaaaaa cagaaaggag ataacgtgag caaaacaaaa tctggtcgcc 5040

accgactgag caaaacagac aaacgcctgc tggctgcact tgtcgttgcc ggatacgaag 5100

aacggacagc ccgtgacctc atccagaaac acgtttacac actgacacag gccgacctgc 5160

```
        gccatctggt cagtgaaatc agtaacggtg tgggacagtc acaggcctac gatgcgattt 5220

        accaggcgag acgcattcgt ctcgcccgta aatacctgag cggaaaaaaa ccggaagggg 5280

        tggaaccccg ggaagggcag gaacgggaag atttaccata actcccgtta tcagtaccat 5340

        cggctcaacg ctcgttgtcg gatctgaaaa attcgctcaa aagatcatat ttccctggat 5400

5       attttccacc gtttcttatg tgagcaaagt cacataattc tgtcagacga cgagaaaacg 5460

        gatatcgatt attgtttaat atttttacat tattaaaaat gaaattagat aatcagatac 5520

        aaataatatg ttttcgttca tgcagagaga ttaagggtgt ctaatgaaga aaagttctat 5580

        tgtggcaacc attataacta ttctgtccgg gagtgctaat gcagcatcat ctcagttaat 5640

        accaaatata tcccctgaca gctttacagt tgcagcctcc accgggatgc tgagtggaaa 5700

10      gtctcatgaa atgctttatg acgcagaaac aggaagaaag atcagccagt tagactggaa 5760

        gatcaaaaat gtcgctatcc tgaaaggtga tatatcctgg gatccatact catttctgac 5820

        cctgaatgcc aggggggtgga cgtctctggc ttccgggtca ggtaatatgg atgactacga 5880

        ctggatgaat gaaaatcaat ctgagtggac agatcactca tctcatcctg ctacaaatgt 5940

        taatcatgcc aatgaatatg acctcaatgt gaaaggctgg ttactccagg atgagaatta 6000

15      taaagcaggt ataacagcag gatatcagga aacacgtttc agttggacag ctacaggtgg 6060

        ttcatatagt tataataatg gagcttatac cggaaacttc ccgaaggag tgcgggtaat 6120

        aggttataac cagcgctttt ctatgccata tattggactt gcaggccagt atcgcattaa 6180

        tgattttgag ttaaatgcat tatttaaatt cagcgactgg gttcgggcac atgataatga 6240

        tgagcactat atgagagatc ttactttccg tgagaagaca tccggctcac gttattatgg 6300

20      taccgtaatt aacgctggat attatgtcac acctaatgcc aaagtctttg cggaatttac 6360

        atacagtaaa tatgatgagg gcaaaggagg tactcagacc attgataaga atagtggaga 6420

        ttctgtctct attggcggag atgctgccgg tatttccaat aaaaattata ctgtgacggc 6480

        gggtctgcaa tatcgcttct gaaaaataca gatcatatct ctcttttcat cctcccctag 6540

        cggggaggat gtctgtggaa aggaggttgg tgtttgacca accttcagat gtgtgaaaaa 6600

25      tcaccttttt caccataatg acgggcgct cattctgttg ttttgccttg acattctcca 6660

        cgtctttcag ggcatggaga aggtcaaatt agacatggaa cgctactctc cttcctgtag 6720
```

```
      gaagctcaac atccaagctt aatttgcctc ccattgcttc aacgtaacgc tttaacgtcg 6780

      ccagctttaa atcatttccg cgctgctcca gctttgttac tgctggctgg cttataccca 6840

      tcgcctcagc aacttgtttt tgtgataact ggagttcttc acgcatcatc tgcaagccga 6900

      cctcaagaat catctcatct gccatttctt taattcgtgt ctggctttca ggtgaacgac 6960

 5    tggcaatcac ctcatctaat gttctcatta cttgctctcc agtgtgttca gatgtgctgt 7020

      aaattcatcc tcagctatac gcaccagttt ttcataaaac cgcttatcat tacttttatc 7080

      tcctgcacaa agaacgatag cccgacgaat cggatcgaac gcataaaagg ctcttatcgg 7140

      acggccagaa aactgaacgc gaagctcttt catatttttg taccgagaac ctttcacggt 7200

      atcggcatat ggcctgggta actcaggtcc gtaaacctgt agctttttca aatcagccaa 7260

10    aaccttttcc tgaagagcgt cttcttgctc atttagccag tcgtcaaatc gctggctaaa 7320

      aagtaccatc cacatgctca accctataac ctgtagctta ccccactaac aatataacct 7380

      acgagttata ttttcaagaa aagctggcta tttaacataa cggcaatttg tacgcaccac 7440

      tgaaatgcgt tcagcgcgat cacggcaaca gacaggcaaa aatagcaaca aacctcccga 7500

      aaaaccgccg cgatcgcgcc tgataaattt taaccttatg catatctatg cagccaggcg 7560

15    aatcacgaac gaattgcctg cctgatgtaa ctgaaacggg tgttttttcc tgatttggtg 7620

      ggcgtggaag acggaacatg aacgggaaaa cagaattcat gccagatgag cgcgatctgg 7680

      caattaaggc aaaacacagc aacaaagaca cgccagaatc gcgcccggat atgttttaac 7740

      gcgattttca gactcagaca aattcagcag aatgctactc cattcaccgg gctgatggtg 7800

      aatacatgcg tatccaggat gagtacattt ctggctctgc cacagctctg tctgttggca 7860

20    gctttcgcct gtccggaaac ctgcttaaaa cgctcccgaa aggcctctga accagaaagc 7920

      aacaaaacac aggccattaa gtaaatcgcg ttaaaacacg tctgatggat tgctgcaaaa 7980

      aaagtccct aatggagcag ggactgttaa acccagtgaa tagcgtctaa attaaagtaa 8040

      gaatacgacc aggtactctt cagaaaagag attaatccac cgcacagaat aatcaacagt 8100

      aaaaacaaac aaccctgatt ttttattttt cttttttttcg ataaaaacaa aattaaagaa 8160

25    ataattaatc agaacattcc ttaacttcag ggcattgcct gtgttccatt ttgtgattag 8220

      tctgaaactt ccgaaggtgg ataacacccg gtatttttt gctcacataa agccctcct 8280
```

tcaggcagag gggctttttc tttgccacca cataaaaaag gccctcacag gaggtgttct 8340

gtgagggcgt atgataagga ctgaatcgat ggttaatatg tctagtcctg acttttgcat 8400

ctccgaatat aaaaccctgt ttaacggcat gcaaaaccaa aaaataaaaa tgtgacatcg 8460

caatgccaga taatattgac gcatgaggga atgcgtaccc cgacccctgt gtaacgaacg 8520

gtgcaatagt gatccacacc caacgcctga aatcagatcc aggggggtaat ctgctctcct 8580

gattcaggag agtttatggt cacttttgag acagttatgg aaattaaaat cctgcacaag 8640

cagggaatga gtagccgggc gattgccaga gaactgggga tctcccgcaa taccgttaaa 8700

cgttatttgc aggcaaaatc tgagccgcca aaatatacgc cgcgacctgc tgttgcttca 8760

ctcctggatg aataccggga ttatattcgt caacgcatcg ccgatgctca tccttacaaa 8820

atcccggcaa cggtaatcgc tcgcgagatc agagaccagg gatatcgtgg cggaatgacc 8880

attctcaggg cattcattcg ttctctctcg gttcctcagg agcaggagcc tgccgttcgg 8940

ttcgaaactg aacccggacg acagatgcag gttgactggg gcactatgcg taatggtcgc 9000

tcaccgcttc acgtgttcgt tgctgttctc ggatacagcc gaatgctgta catcgaattc 9060

actgacaata tgcgttatga cacgctggag acctgccatc gtaatgcgtt ccgcttcttt 9120

ggtggtgtgc cgcgcgaagt gttgtatgac aatatgaaaa ctgtggttct gcaacgtgac 9180

gcatatcaga ccggtcagca ccggttccat ccttcgctgt ggcagttcgg caaggagatg 9240

ggcttctctc cccgactgtg tcgccccttc agggcacaga ctaaaggtaa ggtggaacgg 9300

atggtgcagt acacccgtaa cagttttttac atcccactaa tgactcgcct gcgcccgatg 9360

gggatcactg tcgatgttga aacagccaac cgccacggtc tgcgctggct gcacgatgtc 9420

gctaaccaac gaaagcatga aacaatccag gcccgtccct gcgatcgctg gctcgaagag 9480

cagcagtcca tgctggcact gcctccggag aaaaaagagt atgacgtgca tcttgatgaa 9540

aatctggtga acttcgacaa acaccccctg catcatccac tctccatcta cgactcattc 9600

tgcagaggag tggcgtgatg atggaactgc aacatcaacg actgatggcg ctcgccgggc 9660

agttgcaact ggaaagcctt ataagcgcag cgcctgcgct gtcacaacag cagtagacc 9720

aggaatggag ttatatggac ttcctggagc atctgcttca tgaagaaaaa ctggcacgtc 9780

atcaacgtaa acaggcgatg tatacccgaa tggcagcctt cccggcggtg aaaacgttcg 9840

```
aagagtatga cttcacattc gccaccggag caccgcagaa gcaactccag tcgttacgct 9900

cactcagctt catagaacgt aatgaaaata tcgtattcac tggggccatt caggtgtggg 9960
```